

PROJECT MANUAL

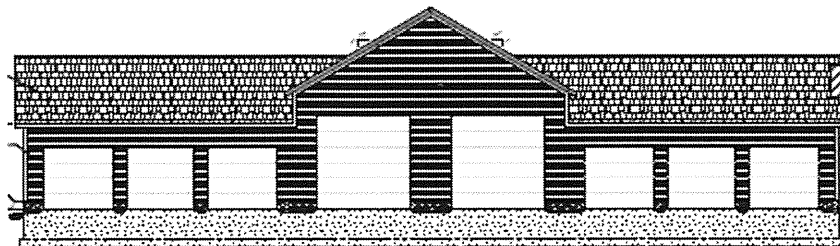
for the

Gray Fish - Wild Garage

for the

**Department of Inland
Fisheries and Wildlife
Augusta, Maine**

BREM# 2931



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END OF DOCUMENT

00 11 13
Notice to Contractors

IF&W Gray Fish-Wild Garage

The construction of a 28' x 106'- 8 bay wood structure storage garage to the plans and specifications supplied within.

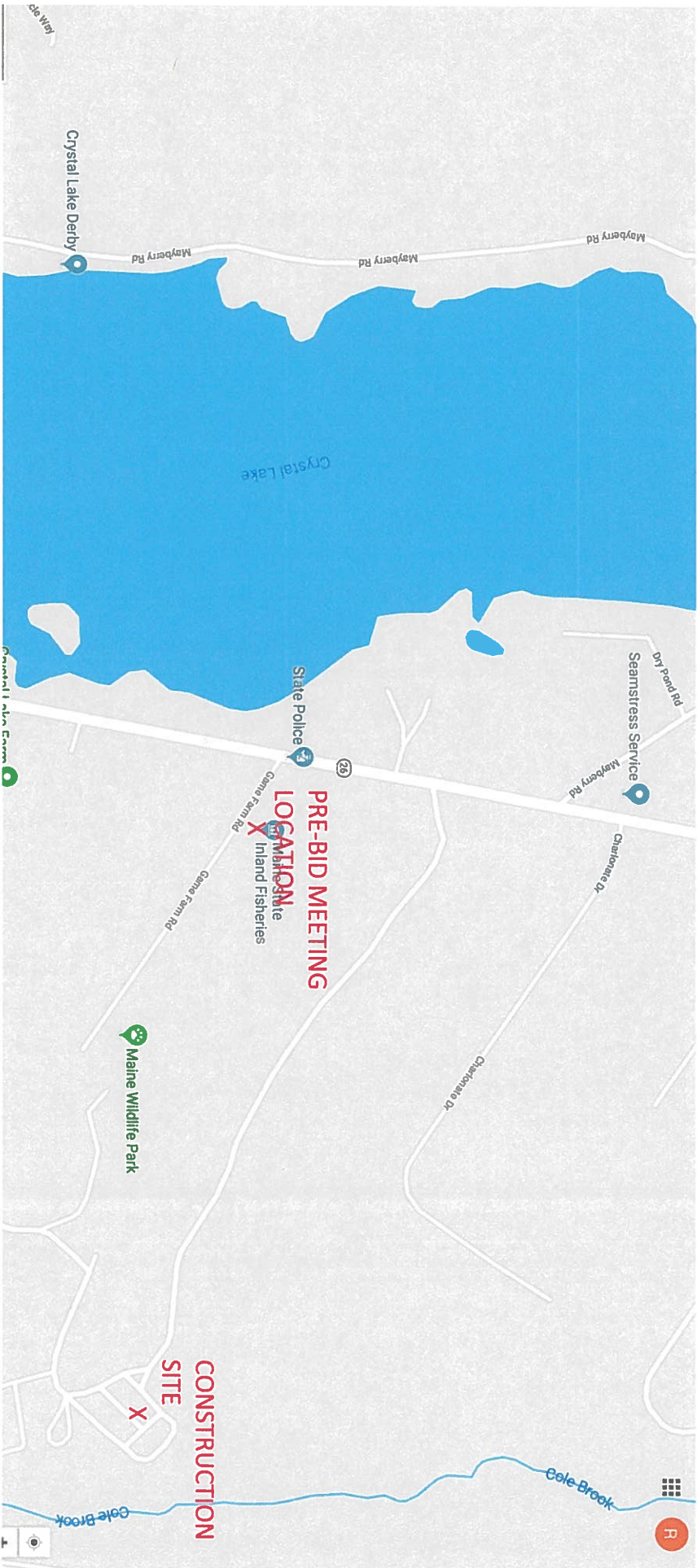
The cost of the work is approximately \$ 150,000. The work to be performed under this contract shall be completed on or before the Final Completion date of *01 September 2019*.

1. Sealed Contractor bids, in envelopes plainly marked "Bid for *IF&W Gray Fish-Wild Garage*" and addressed to:
*Joseph Ostwald
Bureau of Real Estate Management
4th Floor, Cross State Office Building, Room 400, 111 Sewall Street
77 State House Station
Augusta, Maine 04333-0077*
will be opened and read aloud at *the address shown above* at **2:00 p.m.** on **June 13, 2019**. Any bid submitted after the noted time will not be considered a valid bid and will remain unopened.
2. The bid shall be submitted on the Contractor Bid Form (section 00 41 13) provided in the Bid Documents. The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.
3. Bid security *is required* on this project.
If noted above as required, the Bidder shall include a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with the completed bid form submitted to the Owner. The Bid Bond form is available on the BREM website.
4. Performance and Payment Bonds *are required* on this project.
If noted above as required, the selected Contractor shall furnish a 100% contract Performance Bond (section 00 61 13.13) and a 100% contract Payment Bond (section 00 61 13.16) in the contract amount to cover the execution of the Work. Bond forms are available on the BREM website.
5. Filed Sub-bids *are not required* on this project.
6. There *are no* Pre-qualified General Contractors on this project.
If Pre-qualified General Contractors are identified for this project, the name of each company, with their city and state, are listed below.
7. An on-site pre-bid conference *will* be conducted for this project.
If a pre-bid conference is scheduled, it is *optional* for General Contractors and optional for Subcontractors and suppliers. Contractors who arrive late or leave early for a mandatory meeting may be prohibited from participating in this meeting and bidding. *9:00 A.M., Friday June 7, 2019; 15 Game Farm Road, Gray ME 04039.*

00 11 13
Notice to Contractors

8. Property Insurance for this construction contract, described in the Insurance Requirements section of the General Conditions of the contract, shall be New construction insured by Contractor.
9. Bid Documents - full sets only - will be available on or about 05-28-2019 and may be purchased for a charge of \$40.00 plus shipping from:
Quality Copy & Digital Print
4 North St.
Hallowell, ME 04347
(207) 622-7447
10. Bid Documents may be examined at:

<i>AGC Maine</i> <i>188 Whitten Road</i> <i>Augusta, ME 04332</i> <i>Phone 207-622-4741 Fax 207-622-1625</i>	<i>Construction Summary</i> <i>734 Chestnut Street</i> <i>Manchester, NH 03104</i> <i>Phone 603-627-8856 Fax 603-627-4524</i>
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00 21 13
Instructions to Bidders

1. Bidder Requirements

- 1.1 A bidder is a Contractor who is qualified, or has been specifically pre-qualified by the Bureau of Real Estate Management, to bid on the proposed project described in the Bid Documents.
- 1.2 Contractors and Subcontractors bidding on projects that utilize Filed Sub-bids shall follow the requirements outlined in these Bid Documents for such projects. See Section 00 22 13 for additional information.
- 1.3 Contractors and Subcontractors are not eligible to bid on the project when their access to project design documents prior to the bid period distribution of documents creates an unfair bidding advantage. Prohibited access includes consultation with the Owner or with design professionals engaged by the Owner regarding cost estimating, constructability review, or project scheduling. This prohibition to bid applies to open, competitive bidding or pre-qualified contractor bidding or Filed Sub-bidding. The Bureau may require additional information to determine if the activities of a Contractor constitute an unfair bidding advantage.
- 1.4 Each bidder is responsible for becoming thoroughly familiar with the Bid Documents prior to submitting a bid. The failure of a bidder to review evident site conditions, to attend available pre-bid conferences, or to receive, examine, or act on addenda to the Bid Documents shall not relieve that bidder from any obligation with respect to their bid or the execution of the work as a Contractor.
- 1.5 Prior to the award of the contract, General Contractor bidders or Filed Sub-bidders may be required to provide documented evidence to the Owner or the Bureau showing compliance with the provisions of this section, their business experience, financial capability, or performance on previous projects.
- 1.6 The selected General Contractor bidder will be required to provide proof of insurance before a contract can be executed.
- 1.7 Contracts developed from this bid shall not be assigned, sublet or transferred without the written consent of the Owner.
- 1.8 By submitting a bid the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Director of the Bureau of Real Estate Management may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.
- 1.9 The Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

00 21 13
Instructions to Bidders

- 1.10 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.
 - 1.11 Each bidder shall forward their contact information as plan holders and direct all project questions via email directly to richard.parker@maine.gov. All questions and answers will be posted on the BREM website project BREM # 2931 in the form of an addendum.
2. Authority of Owner
- 2.1 The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.
 - 2.2 Subject to the Owner's stated right to accept or reject any or all bids, the Contractor shall be selected on the basis of the lowest sum of an acceptable Base Bid plus any Alternate Bids the Owner elects to include. An acceptable bid is one from a responsive and responsible bidder.
3. Submitting Bids and Bid Requirements
- 3.1 Each bid shall be submitted on the forms provided in the Bid Documents.
 - 3.2 Each bid shall be valid for a period of thirty calendar days following the Project bid opening date and time.
 - 3.3 A bid that contains an escalation clause is considered invalid.
 - 3.4 Bidders shall include a Bid Bond or other approved bid security with the bid form submitted to the Owner when the bid form indicates such bid security is required. The bond value shall be 5% of the bid amount. The form of bond is shown in section 00 43 13.
 - 3.5 Bidders shall include the cost of Performance and Payment Bonds in the bid amount if the bid amount will result in a construction contract value over \$125,000, inclusive of alternate bids that may be awarded in the contract. Pursuant to 14 M.R.S.A., Section 871, Public Works Contractors' Surety Bond Law of 1971, subsection 3, the selected Contractor is required to provide these bonds before a contract can be executed. The form of bonds are shown in section 00 61 13.13 and 00 61 13.16.
 - 3.6 Bidders may modify bids in writing prior to the bid closing time. Such written amendments shall not disclose the amount of the initial bid. If so disclosed, the entire bid is considered invalid.
 - 3.7 Bidders shall acknowledge on the bid form all Addenda issued in a timely manner. The Consultant shall not issue Addenda affecting the content of the bid less than 72 hours prior to the bid closing time. Addenda shall be issued to all companies who are registered holders of Bid Documents.
 - 3.8 A bid may be withdrawn without penalty if a written request by the bidder is presented to the Owner prior to the bid closing time. Such written withdrawal requests are subject to verification

00 21 13
Instructions to Bidders

as required by the Bureau. After the bid closing time, such written withdrawal requests may be allowed in consideration of the bid bond or, without utilizing a bid bond, if the Contractor provides documented evidence to the satisfaction of the Bureau that factual errors had been made on the bid form.

- 3.9 In the event State of Maine Offices unexpectedly close on the published date of a public bid opening in the location of that bid opening, prior to the time of the scheduled deadline, the new deadline for the public bid opening will be the following business day at the originally scheduled hour of the day, at the original location. Official closings are posted on the State of Maine government website.
- 3.10 The Owner may require, in a Notice of Intent to Award letter to the apparent low bidder, a Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers as a demonstration of capability of the Bidder and as a condition of award.
- 3.11 Projects which require a State of Maine wage determination will include that schedule as part of the Bid Documents. See section 00 73 46, if such rates are required.
- 3.12 Projects which require compliance with the Davis-Bacon Act are subject to the regulations contained the Code for Federal Regulations and the federal wage determination which is made a part of the Bid Documents. See section 00 73 46, if such rates are required.
- 3.13 The Owner is exempt from the payment of Maine State sales and use taxes as provided in 36 M.R.S. §1760 (1). The Contractor and Subcontractors shall not include taxes on exempt items in the construction contract.

00 41 13
Contractor Bid Form

Gray Fish/Wild Garage

To: *Joseph Ostwald*
 Bureau of Real Estate Management
 111 Sewall Street, Cross State Office Building, 4th Floor
 77 State House Station
 Augusta, Maine 04333-0077

The undersigned, or *Bidder*, having carefully examined the form of contract, general conditions, specifications and drawings dated 17th May, 2019, prepared by Inland Fisheries and Wildlife for Gray Fish/Wild Garage, as well as the premises and conditions relating to the work, proposes to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this project for the **Base Bid** amount of:

\$ _____ .00

1. Allowances *are not included* on this project.

No Allowances

insert brief name of Allowance

\$ insert dollar amount of Allowance

2. Alternate Bids *are not included* on this project.

No Alternate Bids

Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **\$0.00**.

1 *insert title of Alternate or "not used"* \$ _____ .00

2 *insert title of Alternate or "not used"* \$ _____ .00

3 *insert title of Alternate or "not used"* \$ _____ .00

4 *insert title of Alternate or "not used"* \$ _____ .00

5 *insert title of Alternate or "not used"* \$ _____ .00

00 41 13
Contractor Bid Form

3. The Bidder acknowledges receipt of the following addenda to the specifications and drawings:

Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____

Addendum No. _____ Dated: _____

4. Bid security *is required* on this project.

If noted above as required, the Bidder shall include a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with this completed bid form submitted to the Owner.

5. Filed Sub-bids *are not required* on this project.

00 41 13
Contractor Bid Form

Gray Fish/Wild Garage

6. The Bidder agrees, if the Owner offers to award the contract, to provide any and all bonds and certificates of insurance, as well as Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers if required by the Owner, and to sign the designated Construction Contract within twelve calendar days after the date of notification of such acceptance, except if the twelfth day falls on a State of Maine government holiday or other closure day, or a Saturday, or a Sunday, in which case the aforementioned documents must be received before 12:00 noon on the first available business day following the holiday, other closure day, Saturday, or Sunday.

As a guarantee thereof, the Bidder submits, together with this bid, a bid bond or other acceptable instrument as and if required by the Bid Documents.

7. This bid is hereby submitted by:

Signature: _____

Printed name and
title: _____

Company name: _____

Mailing address: _____

City, state, zip code: _____

Phone number: _____

Email address: _____

State of
incorporation,
if a corporation: _____

List of all partners,
if a partnership: _____

00 43 13
Contractor Bid Bond

Bond No.: insert bond number

We, the undersigned, insert company name of Contractor, select type of entity of insert name of municipality in the State of insert name of state as principal, and insert name of surety as Surety, are hereby held and firmly bound unto select title of obligee in the penal sum of five percent of the bid amount, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns, signed this insert date, i.e.: 8th day of select month, select year, which is the same date as that of the first specified bid due date, or subsequent bid due date revised by addendum.

The condition of the above obligation is such that whereas the principal has submitted to the Owner, or State of Maine, to a certain bid, attached hereto and hereby made a part hereof, to enter into a contract in writing, for the construction of insert name of project as designated in the contract documents

Now therefore:

If said bid shall be rejected, or, in the alternate,

If said bid shall be accepted and the principal shall execute and deliver a contract in the form of contract attached hereto, properly completed in accordance with said bid, and shall furnish a bond for the faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

Otherwise, the same shall remain in force and effect- it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid and said Surety does hereby waive notice of any such extension.

00 43 13
Contractor Bid Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this insert date, i.e.: 8th day of select month, select year, which is the same date as that of the bid due date.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

State of Maine CONSTRUCTION CONTRACT

Large Construction Project

(Contract value \$50,000 or greater. Contract includes Project Manual, Specifications and Drawings)

Agreement entered into by and between the State of Maine through the insert contracting entity name hereinafter called the **Owner** and insert Contractor company name hereinafter called the **Contractor**.

BREM Project No.: insert number assigned by BREM (not the PIP number)

Other Project No.: _____

For the following Project: title of project shown on documents at facility or campus name, municipality, Maine.

The Specifications and the Drawings have been prepared by firm name, acting as Professional-of-Record and named in the documents as the Consultant Architect or Engineer.

The **Owner** and **Contractor** agree as follows:

ARTICLE 1 COMPENSATION AND PAYMENTS

1.1 The Owner shall pay the Contractor to furnish all labor, equipment, materials and incidentals necessary for the construction of the work described in the Specifications and shown on the Drawings the Contract Sum of \$0.00.

1.2 The Contractor's requisition shall contain sufficient detail and supporting information for the Owner to evaluate and support the payment requested.

1.2.1 Payments are due and payable twenty-five working days from the date of receipt of a Contractor requisition which is approved by the Owner.

1.2.2 Provisions for late payments will be governed by 5 M.R.S. Chapter 144, *Payment of Invoices Received from Business Concerns*, and interest shall be calculated at 1% per month.

ARTICLE 2 TIME OF COMPLETION

2.1 The work of this Contract shall be completed on or before 31 December 2020.

ARTICLE 3 INELIGIBLE BIDDER

3.1 By signing this contract the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Bureau of Real Estate Management may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.

3.2 By signing this contract the Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

3.3 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.

ARTICLE 4 CONTRACTOR'S RESPONSIBILITIES

4.1 On this project, the Contractor shall furnish the Owner the appropriate contract bonds in the amount of 100% of the Contract Sum. Contract bonds are mandated if the Contract Sum exceeds \$125,000, or if bonds are specifically required by the Contract Documents.

4.2 Property Insurance for this construction contract, described in the Insurance Requirements section of the General Conditions of the contract, shall be Non-standard project insured by Contractor.

4.3 The Contractor shall comply with all laws, codes and regulations applicable to the work.

4.4 The Contractor shall acquire all permits and third-party approvals applicable to the work not specifically identified as provided by the Owner. Costs for Contractor-provided permits and third-party approvals shall be included in the Contract Sum identified in Section 1.1 above.

4.5 The Contractor shall remain an independent agent for the duration of this Contract, shall not become an employee of the State of Maine, and shall assure that no State employee will be compensated by, or otherwise benefit from, this Contract.

4.6 The Contractor shall be responsible for any design cost, construction cost, or other cost incurred on the Project to the extent caused by the negligent acts, errors or omissions of the Contractor or their Subcontractors in the performance of work under this Contract.

ARTICLE 5 OWNER'S RESPONSIBILITIES

5.1 The Owner shall provide full information about the objectives, schedule, constraints and existing conditions of the project. The Owner has established a budget with reasonable contingencies that meets the project requirements.

5.2 By signing this contract the Owner attests that all State of Maine procurement requirements for this contract have been met, including the solicitation of competitive bids.

ARTICLE 6 INSTRUMENTS OF SERVICE

6.1 The Contractor's use of the drawings, specifications and other documents known as the Consultant's Instruments of Service is limited to the execution of the Contractor's scope of work

of this project unless the Contractor receives the written consent of the Owner and Consultant for use elsewhere.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 This Contract shall be governed by the laws of the State of Maine.

7.2 The Owner and Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to this Contract. Neither party to this Contract shall assign the Contract as a whole without written consent of the other party, which consent the Owner may withhold without cause.

7.3 Notwithstanding any other provision of this Agreement, if the Owner does not receive sufficient funds to fund this Agreement or funds are de-appropriated, or if the Owner does not receive legal authority from the Maine State Legislature or Maine Courts to expend funds intended for this Agreement, then the Owner is not obligated to make payment under this Agreement; provided, however, the Owner shall be obligated to pay for services satisfactorily performed prior to any such non-appropriation in accordance with the termination provisions of this agreement. The Owner shall timely notify the Consultant of any non-appropriation and the effective date of the non-appropriation.

ARTICLE 8 CONTRACT DOCUMENTS

8.1 The General Conditions of the contract, instructions to bidders, bid form, Special Provisions, the written specifications and the drawings, and any Addenda, together with this agreement, form the contract. Each element is as fully a part of the Contract as if hereto attached or herein repeated.

8.2 Specifications: indicate date of issuance of project manual

8.3 Drawings: note each sheet number and title

8.4 Addenda: note each addenda number and date, or "none"

BREM Project No.: _____

The Agreement is effective as of the date last executed by the parties.

OWNER**CONTRACTOR**

(Signature) (Date)

name and title

name of contracting entity

(Signature) (Date)

name and title

name of contractor company

(Indicate names of the review and approval individuals appropriate to the approval authority.)

select proper approval authority			
Reviewed by:		Approved by:	
_____ <i>(Signature) (Date)</i> _____ <i>insert name</i>		_____ <i>(Signature) (Date)</i> _____ <i>Joseph H. Ostwald</i>	
_____ <i>Project Manager/ Contract Administrator</i>		_____ <i>Director, Planning, Design & Construction</i>	

00 61 13.13
Contractor Performance Bond

Bond No.: insert bond number

We, the undersigned, insert company name of Contractor, select type of entity of insert name of municipality in the State of insert name of state as principal, and insert name of surety as Surety, are hereby held and firmly bound unto select title of obligee in the penal sum of the Contract Price \$ insert the Contract Price in numbers for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the principal shall promptly and faithfully perform the contract entered into this insert date, i.e.: 8th day of select month, select year, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract, for the construction of insert name of project as designated in the contract documents, then this obligation shall be null and void.

Otherwise, the same shall remain in force and effect- it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time which the Obligee may accept during the performance of the contract and said Surety does hereby waive notice of any such extension.

00 61 13.13
Contractor Performance Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this *insert date, i.e.: 8th* day of *select month, select year*, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

State of Maine
REQUISITION FOR PAYMENT

Contractor: [Contractor company name]Req. Number: [location][address][city state zip]

Date: _____

Project: [Project name]

Project Number: _____

Period: [start date] to [end date]

	Description of Work	Scheduled Value	Work Completed		Total Work Completed	Percent Complete	Balance to Finish
			Previously	This Period			
1	item	\$0	\$0	\$0	\$0	####	\$0
2	item	\$0	\$0	\$0	\$0	####	\$0
3	item	\$0	\$0	\$0	\$0	####	\$0
4	item	\$0	\$0	\$0	\$0	####	\$0
5	item	\$0	\$0	\$0	\$0	####	\$0
6	item	\$0	\$0	\$0	\$0	####	\$0
7	item	\$0	\$0	\$0	\$0	####	\$0
8	item	\$0	\$0	\$0	\$0	####	\$0
9	item	\$0	\$0	\$0	\$0	####	\$0
10	item	\$0	\$0	\$0	\$0	####	\$0
11	item	\$0	\$0	\$0	\$0	####	\$0
12	item	\$0	\$0	\$0	\$0	####	\$0
13	item	\$0	\$0	\$0	\$0	####	\$0
14	item	\$0	\$0	\$0	\$0	####	\$0
15	item	\$0	\$0	\$0	\$0	####	\$0
16	item	\$0	\$0	\$0	\$0	####	\$0
17	item	\$0	\$0	\$0	\$0	####	\$0
18	item	\$0	\$0	\$0	\$0	####	\$0
19	item	\$0	\$0	\$0	\$0	####	\$0
20	item	\$0	\$0	\$0	\$0	####	\$0
21	Change Order No. 1	\$0	\$0	\$0	\$0	####	\$0
22		\$0	\$0	\$0	\$0	####	\$0
23		\$0	\$0	\$0	\$0	####	\$0
24		\$0	\$0	\$0	\$0	####	\$0
25		\$0	\$0	\$0	\$0	####	\$0
Totals		\$0	\$0	\$0	\$0	####	\$0
5% Retainage			\$0	\$0			
Total Paid to Date			\$0				
Current Payment Due				\$0			

Architect/Engineer[Firm name][address][city state zip]**Contractor**[Company name][address][city state zip]**Owner**[Agency name][address][city state zip][signature above this typed name]

date: _____

[signature above this typed name]

date: _____

[signature above this typed name]

date: _____

> approved by:

Bureau of General Services

date: _____



MAINE REVENUE SERVICES

PERMANENT EXEMPTION CERTIFICATE

This Exemption Certificate
is issued under the provisions of 36 M.R.S. §§ 1751 - 2113

MAINE STATE OF
d/b/a MAINE INLAND FISHERIES & WILDLIFE
284 STATE ST
AUGUSTA, ME 04333-0001

Registration Number : E80730
Date Effective: February 11, 2000
Date Issued: February 7, 2017

Form ST-2
2020572170207

This certifies that the organization named above is an agency, branch, or instrumentality of the federal government, the State of Maine or a political subdivision of the State of Maine, and is therefore entitled to purchase tangible personal property or taxable services that will be used exclusively by the organization for the purposes for which it is organized without payment of the Maine sales or use tax.

Note to the Organization: This certificate is not to be used for activities that are mainly commercial enterprises including, but not limited to, purchases of items which will be resold by the organization. A copy of this certificate with the certification completed below, must be provided to vendors in order to purchase goods exempt from tax. It is only necessary to provide one copy to the vendor. Subsequent purchases should indicate that the purchase is exempt from tax. In order to be exempt, the sale must be billed directly to and paid for directly by the organization named on the exemption certificate. This certificate cannot be used for purchases when payments are made with cash, personal checks, or personal credit cards.

Note to the Vendor: This certificate must be taken in good faith from the taxpayer named above. Your good faith may be questioned if you have knowledge of facts which give rise to a reasonable inference that the purchaser is not the holder of the exemption certificate or that the merchandise is not to be used exclusively by the organization. This certificate is valid only if the following certification is completed.

PERMANENT EXEMPTION CERTIFICATE

I HEREBY CERTIFY: That the above exemption certificate is valid, that the tangible personal property described herein which I shall purchase from _____ will be used exclusively by the organization named above for purposes for which it is organized.

Description of property to be purchased:

Authorized Signature
2-8-17
Date

State of Maine
CONSTRUCTION CONTRACT

Construction Change Directive

Project name
Contractor Company name

C. C. D. Number: **1**

Table C

CCD Item No.	Item Name and Description	Method of Compensation	Projected Calendar Days	Projected Item Cost
1			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
Totals			0	\$0

Fully describe the scope of work of the CCD item in the table above and on attached drawings and specifications as necessary.

Indicate the reason for the work, and the estimated schedule and cost impacts.

This CCD records the order to do the work. The documented actual final time and cost changes are subject to approval in a subsequent Change Order process.

signature

date

Consultant (A/E)

Contractor

Owner

Other

Bureau of Real Estate Management

Select or tab to cells which require input, starting at CT# at right.

AdvantageME CT#

State of Maine
CONSTRUCTION CONTRACT
Change Order

Project name

location / school / campus

address

city state zip code

C. O. Number: 1

Issue Date: 31-Jan-2020

BREM Project No.:

Other Project No.:

Contractor Company name**Table A**

Show Deduct as a negative number, e.g.: "-\$700".

	Add	Deduct	Total
Net Amount of this Change Order	\$0	\$0	
Amount of Previous Change Orders	\$0	\$0	
Net of Change Orders to Date	\$0	\$0	\$0
Original Contract Amount			\$0
Revised Contract Amount			\$0

Table B

Show Deduct as a negative number, e.g.: "-14".

	Add	Deduct	Total
Net Calendar Days Adjusted by this Change Order	0	0	
Calendar Days Adjusted by Previous Change Orders	0	0	
Net of Change Orders to Date	0	0	0
Original Contract Completion Date			31-Dec-2020
Revised Contract Completion Date*			31-Dec-2020

Consultant (Architect or Engineer)

Type firm name here

Type person's name, title here

signature

date

Contractor

Type company name here

Type person's name, title here

signature

date

Owner

Type contracting entity name here

Type person's name, title here

signature

date

Role, such as Owner's Rep, or "not used"

Type entity name here

Type person's name, title here

signature

date

Bureau of Real Estate Management

Type Division name here

Type person's name, title here

signature

date

Attach list of Change Order items (Table C) and all supporting documentation.

For reference only, see contract for full definitions:

Substantial Completion Date: date of first beneficial use by Owner.

*Contract Completion Date: Contractor's final completion deadline.

Contract Expiration Date: deadline for Owner's management of contract accounts.

State of Maine
CONSTRUCTION CONTRACT

Change Order - List of Items

Project name

C. O. Number: 1

Contractor Company name

Table C

CO Item No.	Item name	Reason Code	Calendar Days	Cost
1	Insert brief name of CO item here		0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
			0	\$0
Totals			0	\$0

Reason Code

- EO Error or omission of Consultant
- UC Unforeseen job site condition
- OC Owner-generated change
- RC Regulatory authority-generated change
- CC Contractor-generated change

Attach this sheet to the BREM Change Order Table A (cost) and Table B (time) summaries and signature sheet, and the BREM Change Order Table D (detailed data) sheet, and other supporting documentation.

Use multiples of this Table C sheet, if necessary, with a subtotal on each sheet, and the sum of subtotals of each sheet equal to the totals on Table A and Table B.

State of Maine
CONSTRUCTION CONTRACT

Change Order - Details

Project name
Contractor company name

C. O. Number:

TABLE D

ASI No.	RFI No.	CR No.	CP No.	CO Item No.
Item name				
Description of Work				
Reason or Necessity of Work				
Cost Breakdown	Subcontractor base cost	Subcontractor Markup ($\leq 20\%$)	Contractor base cost	Contractor Markup ($\leq 10\%$ or $\leq 20\%$)
	\$0	\$0	\$0	\$0
Reason Code	CC	Total Cost		\$0
Compensation	lump sum	Calendar Days		0
Initiated by	Consultant	Supporting documentation		is attached

Reason Code

- EO Error or omission of Consultant
- UC Unforeseen job site condition
- OC Owner-generated change
- RC Regulatory authority-generated change
- CC Contractor-generated change

▪ Use one Table D sheet for each Change Order item.

▪ Use Table D sheets with the BREM Change Order Table A (cost) and Table B (time) summaries and signature sheet, and the BREM Change Order Table C (list of items) sheet.

signature

date

Consultant (A/E)

Contractor

Owner

Other

**Bureau of Real Estate
Management**

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Definitions

1. Definitions

- 1.1 *Addendum*: A document issued by the Consultant that amends the Bid Documents. Addenda shall not be issued less than seventy-two hours prior to the specified bid opening time.
- 1.2 *Allowance*: A specified dollar amount for a particular scope of work or service included in the Work that is identified in the Bid Documents and included in each Bidder's Bid. The Contractor shall document expenditures for an Allowance during the Project. Any unused balance shall be credited to the Owner. The Contractor is responsible for notifying the Owner of anticipated expenses greater than the specified amount and the Owner is responsible for those additional expenses.
- 1.3 *Alternate Bid*: The Contractor's written offer of a specified dollar amount, submitted on the Bid Form, for the performance of a particular scope of work described in the Bid Documents. The Owner determines the low bidder based on the sum of the base Bid and any combination of Alternate Bids that the Owner selects.
- 1.4 *Architect*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to "Consultant" in State of Maine contract forms.
- 1.5 *Architectural Supplemental Instruction (ASI)*: A written instruction from the Architect for the purpose of clarification of the Contract Documents. An ASI does not alter the Contract Price or Contract Time. ASIs may be responses to RFIs and shall be issued by the Architect in a timely manner to avoid any negative impact on the Schedule of Work.
- 1.6 *Bid*: The Contractor's written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of the Work. A Bid may include bonds or other requirements. A base Bid is separate and distinct from Alternate Bids, being the only cost component necessary for the award of the contract, and representing the minimum amount of Work that is essential for the functioning of the Project.
- 1.7 *Bid Bond*: The security designated in the Bid Documents, furnished by Bidders as a guaranty of good faith to enter into a contract with the Owner, should a contract be awarded to that Bidder.
- 1.8 *Bidder*: Any business entity, individual or corporation that submits a bid for the performance of the work described in the Bid Documents, acting directly or through a duly authorized representative.
- 1.9 *Bid Documents*: The drawings, procurement and contracting requirements, general requirements, and the written specifications -including all addenda, that a bidder is required to reference in the submission of a bid.
- 1.10 *Bureau*: The State of Maine Bureau of Real Estate Management (formerly known as Bureau of General Services, or BGS) in the Department of Administrative and Financial Services.
- 1.11 *Calendar days*: Consecutive days, as occurring on a calendar, taking into account each day of the week, month, year, and any religious, national or local holidays. Calendar days are used for changes in Contract Time.
- 1.12 *Certificate of Substantial Completion*: A document developed by the Consultant that describes the final status of the Work and establishes the date that the Owner may use the facility for its intended

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Definitions

purpose. The Certificate of Substantial Completion may also include a provisional list of items - a "punch list" - remaining to be completed by the Contractor. The Certificate of Substantial Completion identifies the date from which the project warranty period commences.

- 1.13 *Certificate of Occupancy*: A document developed by a local jurisdiction such as the Code Enforcement Officer that grants permission to the Owner to occupy a building.
- 1.14 *Change Order (CO)*: A document that modifies the contract and establishes the basis of a specific adjustment to the Contract Price or the Contract Time, or both. Change Orders may address correction of omissions, errors, and document discrepancies, or additional requirements. Change Orders should include all labor, materials and incidentals required to complete the work described. A Change Order is not valid until signed by the Contractor, Owner and Consultant and approved by the Bureau.
- 1.15 *Change Order Proposal (COP) (see also Proposal)*: Contract change proposed by the Contractor regarding the contract amount, requirements, or time. The Contractor implements the work of a COP after it is accepted by all parties. Accepted COPs are incorporated into the contract by Change Order.
- 1.16 *Clerk of the Works*: The authorized representative of the Consultant on the job site. Clerk of the Works is sometimes called the Architect's representative.
- 1.17 *Construction Change Directive (CCD)*: A written order prepared by the Consultant and signed by the Owner and Consultant, directing a change in the Work prior to final agreement with the Contractor on adjustment, if any, in the Contract Price or Contract Time, or both.
- 1.18 *Contract*: A written agreement between the Owner and the successful bidder which obligates the Contractor to perform the work specified in the Contract Documents and obligates the Owner to compensate the Contractor at the mutually accepted sum, rates or prices.
- 1.19 *Contract Bonds (also known as Payment and Performance Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.
- 1.20 *Contract Documents*: The drawings and written specifications (including all addenda), Standard General Conditions, and the contract (including all Change Orders subsequently incorporated in the documents).
- 1.21 *Contract Price*: The dollar amount of the construction contract, also called *Contract Sum*.
- 1.22 *Contract Time*: The designated duration of time to execute the Work of the contract, with a specific date for completion.
- 1.23 *Contractor*: Also called the "General Contractor" or "GC" the individual or entity undertaking the execution of the general contract work under the terms of the contract with the Owner, acting directly or through a duly authorized representative. The Contractor is responsible for the means, methods and materials utilized in the execution and completion of the Work.
- 1.24 *Consultant*: The Architect or Engineer acting as Professional-of-Record for the Project. The Consultant is responsible for the design of the Project.

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Definitions

- 1.25 *Drawings*: The graphic and pictorial portion of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
- 1.26 *Engineer*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to “Consultant” in State of Maine contract forms.
- 1.27 *Filed Sub-bid*: The designated major Subcontractor's (or, in some cases, Contractor's) written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of a particular portion of the Work. A Filed Sub-bid may include bonds or other requirements.
- 1.28 *Final Completion*: Project status establishing the date when the Work is fully completed in compliance with the Contract Documents, as certified by the Consultant. Final payment to the Contractor is due upon Final Completion of the Project.
- 1.29 *General Requirements*: The on-site overhead expense items the Contractor provides for the Project, typically including, but not limited to, building permits, construction supervision, Contract Bonds, insurance, field office, temporary utilities, rubbish removal, and site fencing. Overhead expenses of the Contractor's general operation are not included. Sometimes referred to as the Contractor's General Conditions.
- 1.30 *Owner*: The State agency which is represented by duly authorized individuals. The Owner is responsible for defining the scope of the Project and compensation to the Consultant and Contractor.
- 1.31 *Owner's Representative*: The individual or entity contracted by the Owner to be an advisor and information conduit regarding the Project.
- 1.32 *Overhead*: General and administrative expenses of the Contractor's principal and branch offices, including payroll costs and other compensation of Contractor employees, deductibles paid on any insurance policy, charges against the Contractor for delinquent payments, and costs related to the correction of defective work, and the Contractor's capital expenses, including interest on capital used for the work.
- 1.33 *Performance and Payment Bonds (also known as Contract Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.
- 1.34 *Post-Bid Addendum*: Document issued by the Consultant that defines a potential Change Order prior to signing of the construction contract. The Post-Bid Addendum allows the Owner to negotiate contract changes with the Bidder submitting the lowest valid bid, only if the negotiated changes to the Bid Documents result in no change or no increase in the bid price.

A Post-Bid Addendum may also be issued after a competitive construction Bid opening to those Bidders who submitted a Bid initially, for the purpose of rebidding the Project work without re-advertising.

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Definitions

- 1.35 *Project*: The construction project proposed by the Owner to be constructed according to the Contract Documents. The Project, a public improvement, may be tied logistically to other public improvements and other activities conducted by the Owner or other contractors.
- 1.36 *Proposal (see also Change Order Proposal)*: The Contractor's written offer submitted to the Owner for consideration containing a specified dollar amount or rate, for a specific scope of work, and including a schedule impact, if any. A proposal shall include all costs for overhead and profit. The Contractor implements the work of a Proposal after it is accepted by all parties. Accepted Proposals are incorporated into the contract by Change Order.
- 1.37 *Proposal Request (PR)*: An Owner's written request to the Contractor for a Change Order Proposal.
- 1.38 *Punch List*: A document that identifies the items of work remaining to be done by the Contractor at the Close Out of a Project. The Punch List is created as a result of a final inspection of the work only after the Contractor attests that all of the Work is in its complete and permanent status.
- 1.39 *Request For Information (RFI)*: A Contractor's written request to the Consultant for clarification, definition or description of the Work. RFIs shall be presented by the Contractor in a timely manner to avoid any negative impact on the Schedule of Work.
- 1.40 *Request For Proposal (RFP)*: An Owner's written request to the Contractor for a Change Order Proposal.
- 1.41 *Requisition for Payment*: The document in which the Contractor certifies that the Work described is, to the best of the Contractor's knowledge, information and belief, complete and that all previous payments have been paid by the Contractor to Subcontractors and suppliers, and that the current requested payment is now due. See *Schedule of Values*.
- 1.42 *Retainage*: The amount, calculated at five percent (5%) of the contract value or a scheduled value, that the Owner shall withhold from the Contractor until the work or portion of work is declared substantially complete or otherwise accepted by the Owner. The Owner may, if requested, reduce the amount withheld if the Owner deems it desirable and prudent to do so. (See Title 5 M.R.S.A., Section 1746.)
- 1.43 *Sample*: A physical example provided by the Contractor which illustrates materials, equipment or workmanship and establishes standards by which the Work will be judged.
- 1.44 *Schedule of the Work*: The document prepared by the Contractor and approved by the Owner that specifies the dates on which the Contractor plans to begin and complete various parts of the Work, including dates on which information and approvals are required from the Owner.
- 1.45 *Schedule of Values*: The document prepared by the Contractor and approved by the Owner before the commencement of the Work that specifies the dollar values of discrete portions of the Work equal in sum to the contract amount. The Schedule of Values is used to document progress payments of the Work in regular (usually monthly) requisitions for payment. See *Requisition for Payment*.
- 1.46 *Shop Drawings*: The drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

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Definitions

- 1.47 *Specifications*: The portion of the Contract Documents consisting of the written requirements of the Work for materials, equipment, systems, standards, workmanship, and performance of related services.
- 1.48 *Subcontractor*: An individual or entity undertaking the execution of any part of the Work by virtue of a written agreement with the Contractor or any other Subcontractor. Also, an individual or entity retained by the Contractor or any other Subcontractor as an independent contractor to provide the labor, materials, equipment or services necessary to complete a specific portion of the Work.
- 1.49 *Substantial Completion*: Project status indicating when the Work or a designated portion of the Work is sufficiently complete in compliance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended purpose without unscheduled disruption. Substantial Completion is documented by the date of the Certificate of Substantial Completion signed by the Owner and the Contractor.
- 1.50 *Superintendent*: The representative of the Contractor on the job site, authorized by the Contractor to receive and fulfill instructions from the Consultant.
- 1.51 *Surety*: The individual or entity that is legally bound with the Contractor and Subcontractor to insure the faithful performance of the contract and for the payment of the bills for labor, materials and equipment by the Contractor and Subcontractors.
- 1.52 *Work*: The construction and services, whether completed or partially completed, including all labor, materials, equipment and services provided or to be provided by the Contractor and Subcontractors to fulfill the requirements of the Project as described in the Contract Documents.

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General Conditions

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General Conditions

1. Preconstruction Conference

- 1.1 The Contractor shall, upon acceptance of a contract and prior to commencing work, schedule a preconstruction conference with the Owner and Consultant. The purpose of this conference is as follows.
 - 1.1.1 Introduce all parties who have a significant role in the Project, including:
 - Owner (State agency or other contracting entity)
 - Owner's Representative
 - Consultant (Architect or Engineer)
 - Subconsultants
 - Clerk-of-the-works
 - Contractor (GC)
 - Superintendent
 - Subcontractors
 - Other State agencies
 - Construction testing company
 - Commissioning agent
 - Special Inspections agent
 - Bureau of Real Estate Management (BREM);
 - 1.1.2 Review the responsibilities of each party;
 - 1.1.3 Review any previously-identified special provisions of the Project;
 - 1.1.4 Review the Schedule of the Work calendar submitted by the Contractor to be approved by the Owner and Consultant;
 - 1.1.5 Review the Schedule of Values form submitted by the Contractor to be approved by the Owner and Consultant;
 - 1.1.6 Establish routines for Shop Drawing approval, contract changes, requisitions, et cetera;
 - 1.1.7 discuss jobsite issues;
 - 1.1.8 Discuss Project close-out procedures;
 - 1.1.9 Provide an opportunity for clarification of Contract Documents before work begins; and
 - 1.1.10 Schedule regular meetings at appropriate intervals for the review of the progress of the Work.

2. Intent and Correlation of Contract Documents

- 2.1 The intent of the Contract Documents is to describe the complete Project. The Contract Documents consist of various components; each component complements the others. What is shown as a requirement by any one component shall be inferred as a requirement on all corresponding components.
- 2.2 The Contractor shall furnish all labor, equipment and materials, tools, transportation, insurance, services, supplies, operations and methods necessary for, and reasonably incidental to, the construction and completion of the Project. Any work that deviates from the Contract Documents which appears to be required by the exigencies of construction or by inconsistencies in the Contract Documents, will be determined by the Consultant and authorized in writing by the Consultant, Owner and the Bureau prior to execution. The Contractor shall be responsible for requesting clarifying information where the intent of the Contract Documents is uncertain.
- 2.3 The Contractor shall not utilize any apparent error or omission in the Contract Documents to the disadvantage of the Owner. The Contractor shall promptly notify the Consultant in writing of such errors or omissions. The Consultant shall make any corrections or clarifications necessary in such a situation to document the true intent of the Contract Documents.

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General Conditions

3. Additional Drawings and Specifications

- 3.1 Upon the written request of the Contractor, the Owner shall provide, at no expense to the Contractor, up to five sets of printed Drawings and Specifications for the execution of the Work.
- 3.2 The Consultant shall promptly furnish to the Contractor revised Drawings and Specifications, for the area of the documents where those revisions apply, when corrections or clarifications are made by the Consultant. All such information shall be consistent with, and reasonably inferred from, the Contract Documents. The Contractor shall do no work without the proper Drawings and Specifications.

4. Ownership of Contract Documents

- 4.1 The designs represented on the Contract Documents are the property of the Consultant. The Drawings and Specifications shall not be used on other work without consent of the Consultant.

5. Permits, Laws, and Regulations

- 5.1 The Owner is responsible for obtaining any zoning approvals or other similar local project approvals necessary to complete the Work, unless otherwise specified in the Contract Documents.
- 5.2 The Owner is responsible for obtaining Maine Department of Environmental Protection, Maine Department of Transportation, or other similar state government project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.
- 5.3 The Owner is responsible for obtaining any federal agency project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.
- 5.4 The Owner is responsible for obtaining all easements for permanent structures or permanent changes in existing facilities.
- 5.5 The Contractor is responsible for obtaining and paying for all permits and licenses necessary for the implementation of the Work. The Contractor shall notify the Owner of any delays, variance or restrictions that may result from the issuing of permits and licenses.
- 5.6 The Contractor shall comply with all ordinances, laws, rules and regulations and make all required notices bearing on the implementation of the Work. In the event the Contractor observes disagreement between the Drawings and Specifications and any ordinances, laws, rules and regulations, the Contractor shall promptly notify the Consultant in writing. Any necessary changes shall be made as provided in the contract for changes in the work. The Contractor shall not perform any work knowing it to be contrary to such ordinances, laws, rules and regulations.
- 5.7 The Contractor shall comply with local, state and federal regulations regarding construction safety and all other aspects of the Work.
- 5.8 The Contractor shall comply with the Maine Code of Fair Practices and Affirmative Action, 5 M.R.S. §784 (2).

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General Conditions

6. Taxes

- 6.1 The Owner is exempt from the payment of Federal Excise Taxes on articles not for resale and from the Federal Transportation Tax on all shipments, as well as Maine State Sales and Use Taxes. Pricing in all Change Order Proposals from the Contractor and Subcontractors shall not include these taxes.
- 6.2 Maine statute (36 M.R.S. §1760) allows "...an exemption from sales and use tax on items which will be physically incorporated in real property of an exempt organization. This exemption only applies to lumber, hardware, doors and windows, nails, insulation and other building materials actually affixed to realty. Tools, wearing apparel, consumable supplies, machinery and equipment used by the Contractor are taxable even if purchased specifically for the exempt job."
- 6.3 The Contractor may contact Maine Revenue Services, 24 State House Station, Augusta, Maine 04333 for guidance on tax exempt regulations authorized by 36 M.R.S. §1760 and detailed in Rule 302 (18-125 CMR 302).

7. Labor and Wages

- 7.1 The Contractor shall conform to the labor laws of the State of Maine, and all other laws, ordinances, and legal requirements affecting the work in Maine.
- 7.2 The Consultant shall include a wage determination document prepared by the Maine Department of Labor in the Contract Documents for state-funded contracts in excess of \$50,000. The document shows the minimum wages required to be paid to each category of labor employed on the project.
- 7.3 On projects requiring a Maine wage determination, the Contractor shall submit monthly payroll records to the Owner ("the contracting agency") showing the name and occupation of all workers and all independent contractors employed on the project. The monthly submission must also include the Contractor's company name, the title of the project, hours worked, hourly rate or other method of remuneration, and the actual wages or other compensation paid to each person.
- 7.4 The Contractor shall not reveal, in the payroll records submitted to the Owner, personal information regarding workers and independent contractors, other than the information described above. Such information shall not include Social Security number, employee identification number, or employee address or phone number, for example.
- 7.5 The Contractor shall conform to Maine statute (39-A M.R.S. §105-A (6)) by providing to the Workers' Compensation Board a list of all subcontractors and independent contractors on the job site and a record of the entity to whom that subcontractor or independent contractor is directly contracted and by whom that subcontractor or independent contractor is insured for workers' compensation purposes.
- 7.6 The Contractor shall enforce strict discipline and good order among their employees at all times, and shall not employ any person unfit or unskilled to do the work assigned to them.
- 7.7 The Contractor shall promptly pay all employees when their compensation is due, shall promptly pay all others who have billed and are due for materials, supplies and services used in the Work, and shall promptly pay all others who have billed and are due for insurance, workers

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General Conditions

compensation coverage, federal and state unemployment compensation, and Social Security charges pertaining to this Project. Before final payments are made, the Contractor shall furnish to the Owner affidavits that all such payments described above have been made.

7.8 The Contractor may contact the Maine Department of Labor, 54 State House Station, Augusta, Maine 04333 for guidance on labor issues.

7.9 The Contractor may contact the Maine Workers' Compensation Board, 27 State House Station, Augusta, Maine 04333 for guidance on workers' compensation issues.

8. Indemnification

8.1 The Contractor shall indemnify and hold harmless the Owner and its officers and employees from and against any and all damages, liabilities, and costs, including reasonable attorney's fees, and defense costs, for any and all injuries to persons or property, including claims for violation of intellectual property rights, to the extent caused by the negligent acts or omissions of the Contractor, its employees, agents, officers or subcontractors in the performance of work under this Agreement. The Contractor shall not be liable for claims to the extent caused by the negligent acts or omissions of the Owner or for actions taken in reasonable reliance on written instructions of the Owner.

8.2 The Contractor shall notify the Owner promptly of all claims arising out of the performance of work under this Agreement by the Contractor, its employees or agents, officers or subcontractors.

8.3 This indemnity provision shall survive the termination of the Agreement, completion of the project or the expiration of the term of the Agreement.

9. Insurance Requirements

9.1 The Contractor shall provide, with each original of the signed Contract, an insurance certificate or certificates acceptable to the Owner and BREM. The Contractor shall submit insurance certificates to the Owner and BREM at the commencement of this Contract and at policy renewal or revision dates. The certificates shall identify the project name and BREM project number, and shall name the Owner as certificate holder and as additional insured for general liability and automobile liability coverages. The submitted forms shall contain a provision that coverage afforded under the insurance policies will not be canceled or materially changed unless at least ten days prior written notice by registered letter has been given to the Owner and BREM.

9.2 The Owner does not warrant or represent that the insurance required herein constitutes an insurance portfolio which adequately addresses all risks faced by the Contractor or its Subcontractors. The Contractor is responsible for the existence, extent and adequacy of insurance prior to commencement of work. The Contractor shall not allow any Subcontractor to commence work until all similar insurance required of the Subcontractor has been confirmed by the Contractor.

9.3 The Contractor shall procure and maintain primary insurance for the duration of the Project and, if written on a Claims-Made basis, shall also procure and maintain Extended Reporting Period (ERP) insurance for the period of time that any claims could be brought. The Contractor shall

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General Conditions

ensure that all Subcontractors they engage or employ will procure and maintain similar insurance in form and amount acceptable to the Owner and BREM. At a minimum, the insurance shall be of the types and limits set forth herein protecting the Contractor from claims which may result from the Contractor's execution of the Work, whether such execution be by the Contractor or by those employed by the Contractor or by those for whose acts they may be liable. All required insurance coverages shall be placed with carriers authorized to conduct business in the State of Maine by the Maine Bureau of Insurance.

- 9.3.1 The Contractor shall have Workers' Compensation insurance for all employees on the Project site in accordance with the requirements of the Workers' Compensation law of the State of Maine.

Minimum acceptable limits for Employer's Liability are:

Bodily Injury by Accident	\$500,000
Bodily Injury by Disease	\$500,000 Each Employee
Bodily Injury by Disease	\$500,000 Policy Limit

- 9.3.2 The Contractor shall have Commercial General Liability insurance providing coverage for bodily injury and property damage liability for all hazards of the Project including premise and operations, products and completed operations, contractual, and personal injury liabilities. The policy shall include collapse and underground coverage as well as explosion coverage if explosion hazards exist. Aggregate limits shall apply on a location or project basis. Minimum acceptable limits are:

General aggregate limit.....	\$2,000,000
Products and completed operations aggregate	\$1,000,000
Each occurrence limit	\$1,000,000
Personal injury aggregate.....	\$1,000,000

- 9.3.3 The Contractor shall have Automobile Liability insurance against claims for bodily injury, death or property damage resulting from the maintenance, ownership or use of all owned, non-owned and hired automobiles, trucks and trailers. Minimum acceptable limit is:

Any one accident or loss	\$500,000
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- 9.3.4 The Contractor shall have Owner's Protective Liability insurance for contract values \$50,000 and above, naming the Owner as the Named Insured. Minimum acceptable limits are:

General aggregate limit.....	\$2,000,000
Each occurrence limit	\$1,000,000

- 9.4 The Owner has determined the appropriate coverage for this particular project, verified the coverage with the State of Maine Risk Management Division, and selected the proper option on the contract form. Property Insurance for this construction contract shall one of the options described below.

- 9.4.1 New construction insured by the Contractor –
The Contractor shall procure and maintain Builder's Risk insurance naming the Owner, Contractor and any Subcontractors as insureds as their interest may appear. Covered cause of loss form shall be all Risks of Direct Physical Loss, endorsed to include flood, earthquake, transit and sprinkler leakage where sprinkler coverage is applicable. Unless specifically authorized in writing by the Owner, the limit of insurance shall not be less than the initial contract amount and coverage shall apply during the entire contract period until the Certificate of Substantial Completion is accepted by the Owner.

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- 9.4.2 Renovations and additions to existing State-owned buildings insured by the State of Maine Risk Management Division –
Builder's Risk insurance will be provided by the State of Maine in accordance with the terms and conditions of the State's property policy. The Owner shall notify Maine Risk Management Division concerning the project, including the nature and value of the work, planned start and completion date, and the name of the General Contractor. Said insurance coverage shall cover the interests of the Contractor and Subcontractor, as their interests may appear. Exclusions common to commercial property policies may be applicable. A Builder's Risk certificate of insurance will be furnished to the Contractor upon request.

The \$500 per occurrence deductible is the responsibility of the Contractor. Should the Contractor or Subcontractor desire coverage in excess of that maintained by the State, it must be acquired by the Contractor and at Contractor expense.

- 9.4.3 Renovations and additions to existing buildings not insured by the State of Maine Risk Management Division –
The Contractor shall procure and maintain Builder's Risk insurance naming the Owner, Contractor and all Subcontractors as insureds as their interests may appear. The covered cause of loss form shall be Risks of Direct Physical Loss, endorsed to include flood, earthquake, testing and ensuing loss and shall include coverage for materials in transit and materials stored off site. Coverage shall be on a replacement cost and a completed value basis. Unless specifically authorized by the Owner, the limit of insurance shall not be less than the contract amount and coverage shall apply during the entire contract period until the Certificate of Substantial Completion is accepted by the Owner.

10. Contract Bonds

- 10.1 When noted as required in the Bid Documents, the Contractor shall provide to the Owner a Performance Bond and a Payment Bond, or "contract bonds", upon execution of the contract. Each bond value shall be for the full amount of the contract and issued by a surety company authorized to do business in the State of Maine as approved by the Owner. The bonds shall be executed on the forms furnished in the Bid Documents. The bonds shall allow for any subsequent additions or deductions of the contract.
- 10.2 The contract bonds shall continue in effect for one year after final acceptance of the contract to protect the Owner's interest in connection with the one year guarantee of workmanship and materials and to assure settlement of claims for the payment of all bills for labor, materials and equipment by the Contractor.

11. Patents and Royalties

- 11.1 The Contractor shall, for all time, secure for the Owner the free and undisputed right to the use of any patented articles or methods used in the Work. The expense of defending any suits for infringement or alleged infringement of such patents shall be borne by the Contractor. Awards made regarding patent suits shall be paid by the Contractor. The Contractor shall hold the Owner harmless regarding patent suits that may arise due to installations made by the Contractor, and to any awards made as a result of such suits.

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- 11.2 Any royalty payments related to the work done by the Contractor for the Project shall be borne by the Contractor. The Contractor shall hold the Owner harmless regarding any royalty payments that may arise due to installations made by the Contractor.

12. Surveys, Layout of Work

- 12.1 The Owner shall furnish all property surveys unless otherwise specified.
- 12.2 The Contractor is responsible for correctly staking out the Work on the site. The Contractor shall employ a competent surveyor to position all construction on the site. The surveyor shall run the axis lines, establish correct datum points and check each line and point on the site to insure their accuracy. All such lines and points shall be carefully preserved throughout the construction.
- 12.3 The Contractor shall lay out all work from dimensions given on the Drawings. The Contractor shall take measurements and verify dimensions of any existing work that affects the Work or to which the Work is to be fitted. The Contractor is solely responsible for the accuracy of all measurements. The Contractor shall verify all grades, lines, levels, elevations and dimensions shown on the Drawings and report any errors or inconsistencies to the Consultant prior to commencing work.

13. Record of Documents

- 13.1 The Contractor shall maintain one complete set of Contract Documents on the jobsite, in good order and current status, for access by the Owner and Consultant.
- 13.2 The Contractor shall maintain, continuously updated, complete records of Requests for Information, Architectural Supplemental Instructions (or equivalent), Information Bulletins, supplemental sketches, Change Order Proposals, Change Orders, Shop Drawings, testing reports, et cetera, for access by the Owner and Consultant.

14. Allowances

- 14.1 The Contract Price shall include all allowances described in the Contract Documents. The Contractor shall include all overhead and profit necessary to implement each allowance in their Contract Price.
- 14.2 The Contractor shall not be required to employ parties for allowance work against whom the Contractor has a reasonable objection. In such a case, the Contractor shall notify the Owner in writing of their position and shall propose an alternative party to complete the work of the allowance.

15. Shop Drawings

- 15.1 The Contractor shall administer Shop Drawings prepared by the Contractor, Subcontractors, suppliers or others to conform to the approved Schedule of the Work. The Contractor shall verify all field measurements, check and authorize all Shop Drawings and schedules required by the Work. The Contractor is the responsible party and contact for the Contractor's work as well as that of Subcontractors, suppliers or others who provide Shop Drawings.

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- 15.2 The Consultant shall review and acknowledge Shop Drawings, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents.
- 15.3 The Contractor shall provide monthly updated logs containing: requests for information, information bulletins, supplemental instructions, supplemental sketches, change order proposals, change orders, submittals, testing and deficiencies.
- 15.4 The Contractor shall make any corrections required by the Consultant, and shall submit a quantity of corrected copies as may be needed. The acceptance of Shop Drawings or schedules by the Consultant shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications, unless the Contractor has called such deviations to the attention of the Consultant at the time of submission and secured the Consultant's written approval. The acceptance of Shop Drawings or schedules by the Consultant does not relieve the Contractor from responsibility for errors in Shop Drawings or schedules.

16. Samples

- 16.1 The Contractor shall furnish for approval, with reasonable promptness, all samples as directed by the Consultant. The Consultant shall review and approve such samples, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents. The subsequent work shall be in accord with the approved samples.

17. Substitutions

- 17.1 The Contractor shall furnish items and materials described in the Contract Documents. If the item or material specified describes a proprietary product, or uses the name of a manufacturer, the term "or approved equal" shall be implied, if it is not included in the text. The specific item or material specified establishes a minimum standard for the general design, level of quality, type, function, durability, efficiency, reliability, compatibility, warranty coverage, installation factors and required maintenance. The Drawing or written Specification shall not be construed to exclude other manufacturers products of comparable design, quality, and efficiency.
- 17.2 The Contractor may submit detailed information about a proposed substitution to the Consultant for consideration. Particular models of items and particular materials which the Contractor asserts to be equal to the items and materials identified in the Contract Documents shall be allowed only with written approval by the Consultant. The request for substitution shall include a cost comparison and a reason or reasons for the substitution.
- 17.3 The Consultant may request additional information about the proposed substitution. The approval or rejection of a proposed substitution may be based on timeliness of the request, source of the information, the considerations of minimum standards described above, or other considerations. The Consultant should briefly state the rationale for the decision. The decision shall be considered final.
- 17.4 The duration of a substitution review process can not be the basis for a claim for delay in the Schedule of the Work.

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18. Assignment of Contract

- 18.1 The Contractor shall not assign or sublet the contract as a whole without the written consent of the Owner. The Contractor shall not assign any money due to the Contractor without the written consent of the Owner.

19. Separate Contracts

- 19.1 The Owner reserves the right to create other contracts in connection with this Project using similar General Conditions. The Contractor shall allow the Owner's other contractors reasonable opportunity for the delivery and storage of materials and the execution of their work. The Contractor shall coordinate and properly connect the Work of all contractors.
- 19.2 The Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in work of the Owner's other contractors that impacts the proper execution or results of the Contractor. The Contractor's failure to observe or report any deficiencies constitutes an acceptance of the Owner's other contractors work as suitable for the interface of the Contractor's work, except for latent deficiencies in the Owner's other contractors work.
- 19.3 Similarly, the Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in their own work that would impact the proper execution or results of the Owner's other contractors.
- 19.4 The Contractor shall report to the Consultant and Owner any conflicts or claims for damages with the Owner's other contractors and settle such conflicts or claims for damages by mutual agreement or arbitration, if necessary, at no expense to the Owner.
- 19.5 In the event the Owner's other contractors sue the Owner regarding any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at the Contractor's expense. The Contractor shall pay or satisfy any judgment that may arise against the Owner, and pay all other costs incurred.

20. Subcontracts

- 20.1 The Contractor shall not subcontract any part of this contract without the written permission of the Owner.
- 20.2 The Contractor shall submit a complete list of named Subcontractors and material suppliers to the Consultant and Owner for approval by the Owner prior to commencing work. The Subcontractors named shall be reputable companies of recognized standing with a record of satisfactory work.
- 20.3 The Contractor shall not employ any Subcontractor or use any material until they have been approved, or where there is reason to believe the resulting work will not comply with the Contract Documents.
- 20.4 The Contractor, not the Owner, is as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as the Contractor is for the acts and omissions of persons directly or indirectly employed by the Contractor.

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- 20.5 Neither the Contract Documents nor any Contractor-Subcontractor contract shall indicate, infer or create any direct contractual relationship between any Subcontractor and the Owner.

21. Contractor-Subcontractor Relationship

- 21.1 The Contractor shall be bound to the Subcontractor by all the obligations in the Contract Documents that bind the Contractor to the Owner.
- 21.2 The Contractor shall pay the Subcontractor, in proportion to the dollar value of the work completed and requisitioned by the Subcontractor, the approved dollar amount allowed to the Contractor no more than seven days after receipt of payment from the Owner.
- 21.3 The Contractor shall pay the Subcontractor accordingly if the Contract Documents or the subcontract provide for earlier or larger payments than described in the provision above.
- 21.4 The Contractor shall pay the Subcontractor for completed and requisitioned subcontract work, less retainage, no more than seven days after receipt of payment from the Owner for the Contractor's approved Requisition for Payment, even if the Consultant fails to certify a portion of the Requisition for Payment for a cause not the fault of the Subcontractor.
- 21.5 The Contractor shall not make a claim for liquidated damages or penalty for delay in any amount in excess of amounts that are specified by the subcontract.
- 21.6 The Contractor shall not make a claim for services rendered or materials furnished by the Subcontractor unless written notice is given by the Contractor to the Subcontractor within ten calendar days of the day in which the claim originated.
- 21.7 The Contractor shall give the Subcontractor an opportunity to present and to submit evidence in any progress conference or disputes involving subcontract work.
- 21.8 The Contractor shall pay the Subcontractor a just share of any fire insurance payment received by the Contractor.
- 21.9 The Subcontractor shall be bound to the Contractor by the terms of the Contract Documents and assumes toward the Contractor all the obligations and responsibilities that the Contractor, by those documents, assumes toward the Owner.
- 21.10 The Subcontractor shall submit applications for payment to the Contractor in such reasonable time as to enable the Contractor to apply for payment as specified.
- 21.11 The Subcontractor shall make any claims for extra cost, extensions of time or damages, to the Contractor in the manner provided in these General Conditions for like claims by the Contractor to the Owner, except that the time for the Subcontractor to make claims for extra cost is seven calendar days after the receipt of Consultant's instructions.

22. Supervision of the Work

- 22.1 During all stages of the Work the Contractor shall have a competent superintendent, with any necessary assistant superintendents, overseeing the project. The superintendent shall not be

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reassigned without the consent of the Owner unless a superintendent ceases to be employed by the Contractor due to unsatisfactory performance.

- 22.2 The superintendent represents the Contractor on the jobsite. Directives given by the Consultant or Owner to the superintendent shall be as binding as if given directly to the Contractor's main office. All important directives shall be confirmed in writing to the Contractor. The Consultant and Owner are not responsible for the acts or omissions of the superintendent or assistant superintendents.
- 22.3 The Contractor shall provide supervision of the Work equal to the industry's highest standard of care. The superintendent shall carefully study and compare all Contract Documents and promptly report any error, inconsistency or omission discovered to the Consultant. The Contractor may not necessarily be held liable for damages resulting directly from any error, inconsistency or omission in the Contract Documents or other instructions by the Consultant that was not revealed by the superintendent in a timely way.
23. Observation of the Work
- 23.1 The Contractor shall allow the Owner, the Consultant and the Bureau continuous access to the site for the purpose of observation of the progress of the work. All necessary safeguards and accommodations for such observations shall be provided by the Contractor.
- 23.2 The Contractor shall coordinate all required testing, approval or demonstration of the Work. The Contractor shall give sufficient notice to the appropriate parties of readiness for testing, inspection or examination.
- 23.3 The Contractor shall schedule inspections and obtain all required certificates of inspection for inspections by a party other than the Consultant.
- 23.4 The Consultant shall make all scheduled observations promptly, prior to the work being concealed or buried by the Contractor. If approval of the Work is required of the Consultant, the Contractor shall notify the Consultant of the construction schedule in this regard. Work concealed or buried prior to the Consultant's approval may need to be uncovered at the Contractor's expense.
- 23.5 The Consultant may order reexamination of questioned work, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to conform to the Contract Documents, the Owner shall pay the expense of the reexamination and remedial work. If the work is found to not conform to the Contract Documents, the Contractor shall pay the expense, unless the defect in the work was caused by the Owner's Contractor, whose responsibility the reexamination expense becomes.
- 23.6 The Bureau shall periodically observe the Work during the course of construction and make recommendations to the Contractor or Consultant as necessary. Such recommendations shall be considered and implemented through the usual means for changes to the Work.

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24. Consultant's Status

- 24.1 The Consultant represents the Owner during the construction period, and observes the work in progress on behalf of the Owner. The Consultant has authority to act on behalf of the Owner only to the extent expressly provided by the Contract Documents or otherwise demonstrated to the Contractor. The Consultant has authority to stop the work whenever such an action is necessary, in the Consultant's reasonable opinion, to ensure the proper execution of the contract.
- 24.2 The Consultant is the interpreter of the conditions of the contract and the judge of its performance. The Consultant shall favor neither the Owner nor the Contractor, but shall use the Consultant's powers under the contract to enforce faithful performance by both parties.
- 24.3 In the event of the termination of the Consultant's employment on the project prior to completion of the work, the Owner shall appoint a capable and reputable replacement. The status of the new Consultant relative to this contract shall be that of the former Consultant.

25. Management of the Premises

- 25.1 The Contractor shall place equipment and materials, and conduct activities on the premises in a manner that does not unreasonably hinder site circulation, environmental stability, or any long term effect. Likewise, the Consultant's directions shall not cause the use of premises to be impeded for the Contractor or Owner.
- 25.2 The Contractor shall not use the premises for any purpose other than that which is directly related to the scope of work. The Owner shall not use the premises for any purpose incompatible with the proposed work simultaneous to the work of the Contractor.
- 25.3 The Contractor shall enforce the Consultant's instructions regarding information posted on the premises such as signage and advertisements, as well as activities conducted on the premises such as fires, and smoking.
- 25.4 The Owner may occupy any part of the Project that is completed with the written consent of the Contractor, and without prejudice to any of the rights of the Owner or Contractor. Such use or occupancy shall not, in and of itself, be construed as a final acceptance of any work or materials.

26. Safety and Security of the Premises

- 26.1 The Contractor shall designate, and make known to the Consultant and the Owner, a safety officer whose duty is the prevention of accidents on the site.
- 26.2 The Contractor shall continuously maintain security on the premises and protect from unreasonable occasion of injury all people authorized to be on the job site. The Contractor shall also effectively protect the property and adjacent properties from damage or loss.
- 26.3 The Contractor shall take all necessary precautions to ensure the safety of workers and others on and adjacent to the site, abiding by applicable local, state and federal safety regulations. The Contractor shall erect and continuously maintain safeguards for the protection of workers and others, and shall post signs and other warnings regarding hazards associated with the construction process, such as protruding fasteners, moving equipment, trenches and holes, scaffolding, window, door or stair openings, and falling materials.

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- 26.4 The Contractor shall restore the premises to conditions that existed prior to the start of the project at areas not intended to be altered according to the Contract Documents.
- 26.5 The Contractor shall protect existing utilities and exercise care working in the vicinity of utilities shown in the Drawings and Specifications or otherwise located by the Contractor.
- 26.6 The Contractor shall protect from damage existing trees and other significant plantings and landscape features of the site which will remain a permanent part of the site. If necessary or indicated in the Contract Documents, tree trunks shall be boxed and barriers erected to prevent damage to tree branches or roots.
- 26.7 The Contractor shall repair or replace damage to the Work caused by the Contractor's or Subcontractor's forces, including that which is reasonably protected, at the expense of the responsible party.
- 26.8 The Contractor shall not load, or allow to be loaded, any part of the Project with a force which imperils personal or structural safety. The Consultant may consult with the Contractor on such means and methods of construction, however, the ultimate responsibility lies with the Contractor.
- 26.9 The Contractor shall not jeopardize any work in place with subsequent construction activities such as blasting, drilling, excavating, cutting, patching or altering work. The Consultant must approve altering any structural components of the project. The Contractor shall supervise all construction activities carried out by others on site to ensure that the work is neatly done and in a manner that will not endanger the structure or the component parts.
- 26.10 The Contractor may act with their sole discretion in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Contractor may negotiate with the Owner for compensation for expenses due to such emergency work.
- 26.11 The Contractor and Subcontractors shall have no responsibility for the identification, discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials in any form at the project site. The Contractor shall avoid disruption of any hazardous materials or toxic substances at the project site and promptly notify the Owner in writing on the occasion of such a discovery.
- 26.12 The Contractor shall keep the premises free of any unsafe accumulation of waste materials caused by the work. The Contractor shall regularly keep the spaces "broom clean". See the Close-out of the Work provisions of this section regarding cleaning at the completion of the project.
27. Changes in the Work
- 27.1 The Contractor shall not proceed with extra work without an approved Change Order or Construction Change Directive. A Change Order which has been properly signed by all parties shall become a part of the contract.
- 27.2 A Change Order is the usual document for directing changes in the Work. In certain circumstances, however, the Owner may utilize a Construction Change Directive to direct the

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Contractor to perform changes in the Work that are generally consistent with the scope of the project. The Owner shall use a Construction Change Directive only when the normal process for approving changes to the Work has failed to the detriment of the Project, or when agreement on the terms of a Change Order cannot be met, or when an urgent situation requires, in the Owner's judgment, prompt action by the Contractor.

- 27.3 The Consultant shall prepare the Construction Change Directive representing a complete scope of work, with proposed Contract Price and Contract Time revisions, if any, clearly stated.
- 27.4 The Contractor shall promptly carry out a Construction Change Directive which has been signed by the Owner and the Consultant. Work thus completed by the Contractor constitutes the basis for a Change Order. Changes in the Contract Price and Contract Time shall be as defined in the Construction Change Directive unless subsequently negotiated with some other terms.
- 27.5 The method of determining the dollar value of extra work shall be by:
- .1 an estimate of the Contractor accepted by Owner as a lump sum, or
 - .2 unit prices named in the contract or subsequently agreed upon, or
 - .3 cost plus a designated percentage, or
 - .4 cost plus a fixed fee.
- 27.6 The Contractor shall determine the dollar value of the extra work for both the lump sum and cost plus designated percentage methods so as not to exceed the following rates. The rates include all overhead and profit expenses.
- .1 Contractor - for any work performed by the Contractor's own forces, up to 20% of the cost;
 - .2 Subcontractor - for work performed by Subcontractor's own forces, up to 20% of the cost;
 - .3 Contractor - for work performed by Contractor's Subcontractor, up to 10% of the amount due the Subcontractor.
- 27.7 The Contractor shall keep and provide records as needed or directed for the cost plus designated percentage method. The Consultant shall review and certify the appropriate amount which includes the Contractor's overhead and profit. The Owner shall make payments based on the Consultant's certificate.
- 27.8 Cost reflected in Change Orders shall be limited to the following: cost of materials, cost of delivery, cost of labor (including Social Security, pension, Workers' Compensation insurance, and unemployment insurance), and cost of rental of power tools and equipment. Labor cost may include a pro-ratio share of a foreman's time only in the case of an extension of contract time granted due to the Change Order.
- 27.9 Overhead reflected in Change Orders shall be limited to the following: bond premium, supervision, wages of clerks, time keepers, and watchmen, small tools, incidental expenses, general office expenses, and all other overhead expenses directly related to the Change Order.
- 27.10 The Contractor shall provide credit to the Owner for labor, materials, equipment and other costs but not overhead and profit expenses for those Change Order items that result in a net value of credit to the contract.
- 27.11 The Owner may change the scope of work of the Project without invalidating the contract. The Owner shall notify the Contractor of a change of the scope of work for the Owner's Contractors,

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which may affect the work of this Contractor, without invalidating the contract. Change Orders for extension of the time caused by such changes shall be developed at the time of directing the change in scope of work.

- 27.12 The Consultant may order minor changes in the Work, not involving extra cost, which is consistent with the intent of the design or project.
- 27.13 The Contractor shall immediately give written notification to the Consultant of latent conditions discovered at the site which materially differ from those represented in the Drawings or Specifications, and which may eventually result in a change in the scope of work. The Contractor shall suspend work until receiving direction from the Consultant. The Consultant shall promptly investigate the conditions and respond to the Contractor's notice with direction that avoids any unnecessary delay of the Work. The Consultant shall determine if the discovered conditions warrant a Change Order.
- 27.14 The Contractor shall, within ten calendar days of receipt of the information, give written notification to the Consultant if the Contractor claims that instructions by the Consultant will constitute extra cost not accounted for by Change Order or otherwise under the contract. The Consultant shall promptly respond to the Contractor's notice with direction that avoids any unnecessary delay of the Work. The Consultant shall determine if the Contractor's claim warrants a Change Order.

28. Correction of the Work

- 28.1 The Contractor shall promptly remove from the premises all work the Consultant declares is non-conforming to the contract. The Contractor shall replace the work properly at no expense to the Owner. The Contractor is also responsible for the expenses of others whose work was damaged or destroyed by such remedial work.
- 28.2 The Owner may elect to remove non-conforming work if it is not removed by the Contractor within a reasonable time, that time defined in a written notice from the Consultant. The Owner may elect to store removed non-conforming work not removed by the Contractor at the Contractor's expense. The Owner may, with ten days written notice, dispose of materials which the Contractor does not remove. The Owner may sell the materials and apply the net proceeds, after deducting all expenses, to the costs that should have been borne by the Contractor.
- 28.3 The Contractor shall remedy any defects due to faulty materials or workmanship and pay for any related damage to other work which appears within a period of one year from the date of substantial completion, and in accord with the terms of any guarantees provided in the contract. The Owner shall promptly give notice of observed defects to the Contractor and Consultant. The Consultant shall determine the status of all claimed defects. The Contractor shall perform all remedial work without unjustifiable delay in either the initial response or the corrective action.
- 28.4 The Consultant may authorize, after a reasonable notification to the Contractor, an equitable deduction from the contract amount in lieu of the Contractor correcting non-conforming or defective work.

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29. Owner's Right to do Work

- 29.1 The Owner may, using other contractors, correct deficiencies attributable to the Contractor, or complete unfinished work. Such action shall take place only after giving the Contractor three days written notice, and provided the Consultant approves of the proposed course of action as an appropriate remedy. The Owner may then deduct the cost of the remedial work from the amount due the Contractor.
- 29.2 The Owner may act with their sole discretion when the Contractor is unable to take action in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Owner shall inform the Contractor of the emergency work performed, particularly where it may affect the work of the Contractor.

30. Termination of Contract and Stop Work Action

- 30.1 The Owner may, owing to a certificate of the Consultant indicating that sufficient cause exists to justify such action, without prejudice to any other right or remedy and after giving the Contractor and the Contractor's surety seven days written notice, terminate the employment of the Contractor. At that time the Owner may take possession of the premises and of all materials, tools and appliances on the premises and finish the work by whatever method the Owner may deem expedient. Cause for such action by the Owner includes:
- .1 the contractor is adjudged bankrupt, or makes a general assignment for the benefit of its creditors, or
 - .2 a receiver is appointed due to the Contractor's insolvency, or
 - .3 the Contractor persistently or repeatedly refuses or fails to provide enough properly skilled workers or proper materials, or
 - .4 the Contractor fails to make prompt payment to Subcontractors or suppliers of materials or labor, or
 - .5 the Contractor persistently disregards laws, ordinances or the instructions of the Consultant, or is otherwise found guilty of a substantial violation of a provision of the Contract Documents.
- 30.2 The Contractor is not entitled, as a consequence of the termination of the employment of the Contractor as described above, to receive any further payment until the Work is finished. If the unpaid balance of the contract amount exceeds the expense of finishing the Work, including compensation for additional architectural, managerial and administrative services, such balance shall be paid to the Contractor. If the expense of finishing the Work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner. The Consultant shall certify the expense incurred by the Contractor's default. This obligation for payment shall continue to exist after termination of the contract.
- 30.3 The Contractor may, if the Work is stopped by order of any court or other public authority for a period of thirty consecutive days, and through no act or fault of the Contractor or of anyone employed by the Contractor, with seven days written notice to the Owner and the Consultant, terminate this contract. The Contractor may then recover from the Owner payment for all work executed, any proven loss and reasonable profit and damage.
- 30.4 The Contractor may, if the Consultant fails to issue a certificate for payment within seven days after the Contractor's formal request for payment, through no fault of the Contractor, or if the

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Owner fails to pay to the Contractor within 30 days after submission of any sum certified by the Consultant, with seven days written notice to the Owner and the Consultant, stop the Work or terminate this Contract.

31. Delays and Extension of Time

- 31.1 The completion date of the contract shall be extended if the work is delayed by changes ordered in the work which have approved time extensions, or by an act or neglect of the Owner, the Consultant, or the Owner's Contractor, or by strikes, lockouts, fire, flooding, unusual delay in transportation, unavoidable casualties, or by other causes beyond the Contractor's control. The Consultant shall determine the status of all claimed causes.
- 31.2 The contract shall not be extended for delay occurring more than seven calendar days before the Contractor's claim made in writing to the Consultant. In case of a continuing cause of delay, only one claim is necessary.
- 31.3 The contract shall not be extended due to failure of the Consultant to furnish drawings if no schedule or agreement is made between the Contractor and the Consultant indicating the dates which drawings shall be furnished and fourteen calendar days has passed after said date for such drawings.
- 31.4 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Document.

32. Payments to the Contractor

- 32.1 As noted under *Preconstruction Conference* in this section, the Contractor shall submit a Schedule of Values form, before the first application for payment, for approval by the Owner and Consultant. The Consultant may direct the Contractor to provide evidence that supports the correctness of the form. The approved Schedule of Values shall be used as a basis for payments.
- 32.2 The Contractor shall submit an application for each payment ("Requisition for Payment") on a form approved by the Owner and Consultant. The Consultant may require receipts or other documents showing the Contractor's payments for materials and labor, including payments to Subcontractors.
- 32.3 The Contractor shall submit Requisitions for Payment as the work progresses not more frequently than once each month, unless the Owner approves a more frequent interval due to unusual circumstances. The Requisition for Payment is based on the proportionate quantities of the various classes of work completed or incorporated in the Work, in agreement with the actual progress of the Work and the dollar value indicated in the Schedule of Values.
- 32.4 The Consultant shall verify and certify each Requisition for Payment which appears to be complete and correct prior to payment being made by the Owner. The Consultant may certify an appropriate amount for materials not incorporated in the Work which have been delivered and suitably stored at the site. The Contractor shall submit bills of sale, insurance certificates, or other such documents that will adequately protect the Owner's interests prior to payments being certified.

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- 32.5 In the event any materials delivered but not yet incorporated in the Work have been included in a certified Requisition for Payment with payment made, and said materials thereafter are damaged, deteriorated or destroyed, or for any reason whatsoever become unsuitable or unavailable for use in the Work, the full amount previously allowed shall be deducted from subsequent payments unless the Contractor satisfactorily replaces said material.
- 32.6 The Contractor may request certification of an appropriate dollar amount for materials not incorporated in the Work which have been delivered and suitably stored away from the site. The Contractor shall submit bills of sale, insurance certificates, right-of-entry documents or other such documents that will adequately protect the Owner's interests. The Consultant shall determine if the Contractor's documentation for the materials is complete and specifically designated for the Project. The Owner may allow certification of such payments.
- 32.7 Subcontractors may request, and shall receive from the Consultant, copies of approved Requisitions for Payment showing the amounts certified in the Schedule of Values.
- 32.8 Certified Requisitions for Payment, payments made to the Contractor, or partial or entire occupancy of the project by the Owner shall not constitute an acceptance of any work that does not conform to the Contract Documents. The making and acceptance of the final payment constitutes a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work or materials appearing within one year from final payment or from requirements of the Drawings and Specifications, and of all claims by the Contractor, except those previously made and still unsettled.

33. Payments Withheld

- 33.1 The Owner shall retain five percent of each payment due the Contractor as part security for the fulfillment of the contract by the Contractor. The Owner may make payment of a portion of this "retainage" to the Contractor temporarily or permanently during the progress of the Work. The Owner may thereafter withhold further payments until the full amount of the five percent is reestablished. The Contractor may deposit with the Maine State Treasurer certain securities in place of retainage amounts due according to Maine Statute (5 M.R.S. §1746).
- 33.2 The Consultant may withhold or nullify the whole or a portion of any Requisitions for Payment submitted by the Contractor in the amount that may be necessary, in his reasonable opinion, to protect the Owner from loss due to any of the following:
- .1 defective work not remedied;
 - .2 claims filed or reasonable evidence indicating probable filing of claims;
 - .3 failure to make payments properly to Subcontractors or suppliers;
 - .4 a reasonable doubt that the contract can be completed for the balance then unpaid;
 - .5 liability for damage to another contractor.

The Owner shall make payment to the Contractor, in the amount withheld, when the above circumstances are removed.

34. Liens

- 34.1 The Contractor shall deliver to the Owner a complete release of all liens arising out of this contract before the final payment or any part of the retainage payment is released. The

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General Conditions

Contractor shall provide with the release of liens an affidavit asserting each release includes all labor and materials for which a lien could be filed. Alternately, the Contractor, in the event any Subcontractor or supplier refuses to furnish a release of lien in full, may furnish a bond satisfactory to the Owner, to indemnify the Owner against any lien.

- 34.2 In the event any lien remains unsatisfied after all payments to the Contractor are made by the Owner, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such lien, including all cost and reasonable attorney's fees.

35. Workmanship

- 35.1 The Contractor shall provide materials, equipment, and installed work equal to or better than the quality specified in the Contract Documents and approved in submittal and sample. The installation methods shall be of the highest standards, and the best obtainable from the respective trades. The Consultant's decision on the quality of work shall be final.
- 35.2 The Contractor shall know local labor conditions for skilled and unskilled labor in order to apply the labor appropriately to the Work. All labor shall be performed by individuals well skilled in their respective trades.
- 35.3 The Contractor shall perform all cutting, fitting, patching and placing of work in such a manner to allow subsequent work to fit properly, whether that be by the Contractor, the Owner's Contractors or others. The Owner and Consultant may advise the Contractor regarding such subsequent work. Notwithstanding the notification or knowledge of such subsequent work, the Contractor may be directed to comply with this standard of compatible construction by the Consultant at the Contractor's expense.
- 35.4 The Contractor shall request clarification or revision of any design work by the Consultant, prior to commencing that work, in a circumstance where the Contractor believes the work cannot feasibly be completed at the highest quality, or as indicated in the Contract Documents. The Consultant shall respond to such requests in a timely way, providing clarifying information, a feasible revision, or instruction allowing a reduced quality of work. The Contractor shall follow the direction of the Consultant regarding the required request for information.
- 35.5 The Contractor shall guarantee the Work against any defects in workmanship and materials for a period of one year commencing with the date of the Certificate of Substantial Completion, unless specified otherwise for specific elements of the project. The Work may also be subdivided in mutually agreed upon components, each defined by a separate Certificate of Substantial Completion.

36. Close-out of the Work

- 36.1 The Contractor shall remove from the premises all waste materials caused by the work. The Contractor shall make the spaces "broom clean" unless a more thorough cleaning is specified. The Contractor shall clean all windows and glass immediately prior to the final inspection, unless otherwise directed.

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General Conditions

- 36.2 The Owner may conduct the cleaning of the premises where the Contractor, duly notified by the Consultant, fails to adequately complete the task. The expense of this cleaning may be deducted from the sum due to the Contractor.
- 36.3 The Contractor shall participate in all final inspections and acknowledge the documentation of unsatisfactory work, customarily called the "punch list", to be corrected by the Contractor. The Consultant shall document the successful completion of the Work in a dated Certificate of Substantial Completion, to be signed by Owner, Consultant, and Contractor.
- 36.4 The Contractor shall not call for final inspection of any portion of the Work that is not completely and permanently installed. The Contractor may be found liable for the expenses of individuals called to final inspection meetings prematurely.
- 36.5 The Contractor and all major Subcontractors shall participate in the end-of-warranty-period conference, typically scheduled close to one year after the Substantial Completion date.
37. Date of Completion and Liquidated Damages
- 37.1 The Contractor may make a written request to the Owner for an extension or reduction of time, if necessary. The request shall include the reasons the Contractor believes justifies the proposed completion date. The Owner may grant the revision of the contract completion date if the Work was delayed due to conditions beyond the control and the responsibility of the Contractor. The Contractor shall not conduct unauthorized accelerated work or file delay claims to recover alleged damages for unauthorized early completion.
- 37.2 The Contractor shall vigorously pursue the completion of the Work and notify the Owner of any factors that have, may, or will affect the approved Schedule of the Work. The Contractor may be found responsible for expenses of the Owner or Consultant if the Contractor fails to make notification of project delays.
- 37.3 The Project is planned to be done in an orderly fashion which allows for an iterative submittal review process, construction administration including minor changes in the Work and some bad weather. The Contractor shall not file delay claims to recover alleged damages on work the Consultant determines has followed the expected rate of progress.
- 37.4 The Consultant shall prepare the Certificate of Substantial Completion which, when signed by the Owner and the Contractor, documents the date of Substantial Completion of the Work or a designated portion of the Work. The Owner shall not consider the issuance of a Certificate of Occupancy by an outside authority a prerequisite for Substantial Completion if the Certificate of Occupancy cannot be obtained due to factors beyond the Contractor's control.
- 37.5 Liquidated Damages may be deducted from the sum due to the Contractor for each calendar day that the Work remains uncompleted after the completion date specified in the Contract or an approved amended completion date. The dollar amount per day shall be calculated using the Schedule of Liquidated Damages table shown below.

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General Conditions**

If the original contract amount is:	The per day Liquidated Damages shall be:
Less than \$100,000	\$250
\$100,000 to less than \$2,000,000	\$750
\$2,000,000 to less than \$10,000,000	\$1,500
\$10,000,000 and greater	\$1,500 plus \$250 for each \$2,000,000 over \$10,000,000

38. Dispute Resolution

38.1 Mediation

- 38.1.1 A dispute between the parties which arises under this Contract which cannot be resolved through informal negotiation, shall be submitted to a neutral mediator jointly selected by the parties.
- 38.1.2 Either party may file suit before or during mediation if the party, in good faith, deems it to be necessary to avoid losing the right to sue due to a statute of limitations. If suit is filed before good faith mediation efforts are completed, the party filing suit shall agree to stay all proceedings in the lawsuit pending completion of the mediation process, provided such stay is without prejudice.
- 38.1.3 In any mediation between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

38.2 Arbitration

- 38.2.1 If the dispute is not resolved through mediation, the dispute shall be settled by arbitration. The arbitration shall be conducted before a panel of three arbitrators. Each party shall select one arbitrator; the third arbitrator shall be appointed by the arbitrators selected by the parties. The arbitration shall be conducted in accordance with the Maine Uniform Arbitration Act (MUAA), except as otherwise provided in this section.
- 38.2.2 The decision of the arbitrators shall be final and binding upon all parties. The decision may be entered in court as provided in the MUAA.
- 38.2.3 The costs of the arbitration, including the arbitrators' fees shall be borne equally by the parties to the arbitration, unless the arbitrator orders otherwise.
- 38.2.4 In any arbitration between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

00 73 46
Wage Determination Schedule

PART 1- GENERAL

1.1 Related Documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specifications Sections, apply to this Section.

1.2 Summary

- A. This Section includes the wage determination requirements for Contractors as issued by the State of Maine Department of Labor Bureau of Labor Standards or the United States Department of Labor.

1.3 Requirements

- A. Conform to the wage determination schedule for this project which is shown on the following page.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

**THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE
CONSTRUCTION SITE**

State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid laborers and workers employed on the below title project.

Title of Project -----Gray Fish-Wildlife Garage

Location of Project --Gray, Cumberland County

**2019 Fair Minimum Wage Rates
Building 2 Cumberland County
(other than 1 or 2 family homes)**

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asbestos/Lead Removal Worker	\$15.00	\$0.99	\$15.99	Ironworker - Structural	\$21.00	\$3.29	\$24.29
Backhoe Loader Operator	\$22.00	\$5.08	\$27.08	Laborers (Incl. Helpers & Tenders)	\$16.00	\$1.04	\$17.04
Boilermaker	\$24.00	\$9.00	\$33.00	Laborer - Skilled	\$18.05	\$2.79	\$20.84
Bricklayer	\$24.50	\$2.04	\$26.54	Loader Operator - Front-End	\$19.00	\$3.00	\$22.00
Bulldozer Operator	\$20.00	\$3.71	\$23.71	Mechanic- Maintenance	\$25.00	\$3.94	\$28.94
Carpenter	\$23.00	\$3.61	\$26.61	Mechanic- Refrigeration	\$26.00	\$5.16	\$31.16
Carpenter - Acoustical	\$19.50	\$2.03	\$21.53	Millwright	\$29.47	\$10.77	\$40.24
Carpenter - Rough	\$19.00	\$0.92	\$19.92	Oil/Fuel Burner Serv & Installer	\$23.00	\$3.51	\$26.51
Cement Mason/Finisher	\$16.75	\$2.79	\$19.54	Painter	\$16.50	\$0.00	\$16.50
Communication Equip Installer	\$23.00	\$3.16	\$26.16	Pipe/Steam/Sprinkler Fitter	\$25.25	\$5.95	\$31.20
Concrete Mixing Plant Operator	\$22.11	\$4.92	\$27.03	Plumber (Licensed)	\$25.25	\$4.16	\$29.41
Crane Operator =>15 Tons)	\$28.00	\$7.52	\$35.52	Plumber Helper/Trainee	\$21.00	\$2.52	\$23.52
Dry-Wall Applicator	\$25.00	\$0.00	\$25.00	Propane /Natural Gas Serv & Inst	\$26.00	\$4.03	\$30.03
Dry-Wall Taper & Finisher	\$22.91	\$1.08	\$23.99	Pump Installer	\$16.13	\$3.14	\$19.27
Electrician - Licensed	\$28.00	\$4.87	\$32.87	Rigger	\$22.25	\$6.60	\$28.85
Electrician Helper/Cable Puller	\$17.00	\$1.34	\$18.34	Roofer	\$15.00	\$2.79	\$17.79
Excavator Operator	\$20.50	\$2.91	\$23.41	Sheet Metal Worker	\$19.52	\$3.12	\$22.64
Fence Setter	\$15.00	\$2.00	\$17.00	Sider	\$16.75	\$1.38	\$18.13
Flagger	\$13.00	\$0.00	\$13.00	Stone Mason	\$21.00	\$0.95	\$21.95
Floor Layer	\$20.00	\$3.06	\$23.06	Truck Driver - Light	\$17.00	\$1.17	\$18.17
Glazier	\$16.00	\$1.33	\$17.33	Truck Driver - Medium	\$19.00	\$3.37	\$22.37
HVAC	\$24.00	\$4.31	\$28.31	Truck Driver - Heavy	\$17.00	\$1.09	\$18.09
Insulation Installer	\$24.88	\$3.82	\$28.70	Truck Driver - Tractor Trailer	\$17.15	\$1.08	\$18.23
Ironworker - Reinforcing	\$20.25	\$2.88	\$23.13	Truck Driver - Mixer (Cement)	\$17.88	\$3.15	\$21.03

The Laborer classifications include a wide range of work duties. Therefore, if any specific occupation to be employed on this project is not listed in this determination, call the Bureau of Labor Standards at the above number for further clarification.

Welders are classified in the trade to which the welding is incidental.

Apprentices - The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.


Posting of Schedule - Posting of this schedule is required in accordance with 26 MRS §1301 et. seq., by any contractor holding a State contract for construction valued at \$50,000 or more and any subcontractors to such a contractor.

Appeal - Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates with the Secretary of State.

Determination No: B2-066-2019

A true copy

Filing Date: April 29, 2019

Attest: 

Expiration Date: 12-31-2019

Scott R. Cotnoir
Wage and Hour Director
Bureau of Labor Standards

BLS 424BU (R2019) (Building 2 Cumberland)

SECTION 01 10 00

SUMMARY OF WORK

PART I- GENERAL

1.1 REQUIREMENT INCLUDED

- A. The work to be performed under this Contract shall consist of furnishing all plant, tools, equipment, materials, supplies, and manufactured articles and for furnishing all transportation and services, including fuel, power, water, and essential communications, and for the performance of all labor, work, or other operations required for the fulfillment of the Contract in strict accordance with the specifications, drawings, and other Contract Documents as herein before defined, all of which are made a part hereof, and including such detail sketches as may be furnished by the Owner from time to time during construction in explanation of said Contract Documents. The work shall be complete, and all work, materials, and services not expressly shown or called for in the Contract Documents which may be necessary for the complete and proper construction of the work in good faith shall be performed, furnished, and installed by the Contractor as though originally so specified or shown, at no increase in cost to the Owner.

1.2 RELATED SECTIONS

- A. Section 01 56 00: Temporary Facilities and Controls.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work shall consist of all site work, concrete work, and construction of the garage completed fully to the project manual and construction plans.

1.4 CONTRACT METHOD

- A. The work hereunder will be constructed under unit prices as indicated in the Bid Schedule.
- B. The Contractor shall include the General Conditions and Supplementary General Conditions of the Contract as a part of all of its subcontract agreements.

END OF SECTION

SECTION 01 10 90

REFERENCE STANDARDS

PART 1 -GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Schedule of references.

1.2 RELATED SECTIONS

- A. Section 01 40 00 - Quality Control.

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents.
- C. Obtain copies of standards when required by Contract Documents.
- D. Maintain copy at job site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with contract Documents, request clarification from Owner before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.4 SCHEDULE OF REFERENCES

AASHTO	American Association of State Highway and Transportation Officials 444North Capitol Street, N.W. Washington, DC 20001
AGC	Associated General Contractors of America 1957 E. Street N.W. Washington, DC 20006

AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740
ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, PA 19103
EJCDC	Engineers' Joint Contract Documents Committee American Consulting Engineers Council 1015 15th Street, N.W. Washington, DC 20005
FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section (WFSIS) Washington Navy Yard, Bldg. 197 Washington, DC 20407
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

1.1 PRE-INSTALLATION CONFERENCES

- A. When required in individual specification Section, convene a pre-installation conference at work site prior to commencing work of the applicable work item.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Notify Owner four days in advance of meeting date.
- D. Prepare agenda, preside at conference, record minutes, and distribute copies within two days after conference to participants, with two copies to Engineer.
- E. Review conditions of installation, preparation and installation procedures, and coordination with related work.

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 -GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance/control of installation.
- B. References.
- C. Field samples.
- D. Testing laboratory services.
- E. Manufacturer's field services and reports.

1.2 RELATED SECTIONS

- A. Section 01 10 19 - Contract Considerations.
- B. Section 01 10 90 - Reference Standards.
- C. Section 01 33 00- Submittal Procedures.
- D. Section 01 60 00 – Product Requirements.
- E. Section 31 23 16 - Excavation.
- F. Section 31 23 23 - Backfill.

1.3 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with Manufacturer's instructions, including each step, in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.4 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents.

1.5 TESTING LABORATORY SERVICES

- A. Contractor shall employ the services of a qualified firm to perform quality control testing in the field or laboratory on moisture-density relationships (Proctors) and relative density tests on embankments, fill and backfill materials, in-place field density tests on embankments and fills, and other materials and equipment during and after their incorporation in the Work. Field sampling and testing shall be performed by the testing firm with minimum interference with construction operations. Engineer shall determine the time and location of field sampling and testing as necessary to determine that materials and equipment conform to the Contract Documents.

Contractor shall furnish all sample materials and cooperate in the sampling and field-testing activities. Contractor will furnish personnel, equipment, and facilities to perform sampling and field testing activities and to deliver samples and test specimens to the testing laboratory.

If tests indicate Work does not meet specified requirements, remove work, replace, and retest at no cost to Owner.

Contractor shall be responsible for all testing laboratory services in connection with pipe and appurtenances testing, topsoil analysis testing, and other necessary testing not included in paragraph 1.5 above.

END OF SECTION

SECTION 01 56 00

TEMPORARY FACILITIES AND CONTROL

PART 1- GENERAL

1.1 SECTION INCLUDES

- A. Water Control.
- B. Dust Control.
- C. Erosion and Sediment Control.
- D. Pollution Control.

1.2 RELATED SECTIONS

- A. Section 0110 00- Summary of Work.
- B. Section 31 23 16 - Excavation.

1.3 WATERCONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.4 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.5 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills. Prevent erosion and sedimentation.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
- D. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.6 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Contractor shall provide dust control and cleaning as needed and per Engineer's recommendation due to construction activity.

END OF SECTION

SECTION 01 57 00

TRAFFIC CONTROL

PART 1- GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. Regulate traffic in the area of Work being performed.
- B. Perform Work in a manner to provide safe passage for the public at all times with a minimum of obstruction to traffic.
- C. The Owner, local Police Department, Fire Department, and the Engineer will determine if safe passage is being maintained. Perform additional Work required by them to maintain safe passage.
- D. Provide all signs, barricades, flags, traffic guards, and warning devices required conforming to the current edition of the MUTCD.
- E. Provide access for residents and abutting land owners along the Project to driveways and other normal outlets from their property.
- F. Backfill all open excavations prior to stopping work for the night, unless otherwise directed by Engineer.

PART 2- PRODUCTS

2.1 SIGNS, BARRICADES, AND WARNING DEVICES

- A. General: Comply with requirements in "Manual on Uniform Traffic Control Devices" published by Dept. of Transportation and Federal Highway Administration, and requirements of Maine Dept. of Transportation.
- B. Contractor to submit a Traffic Control Plan for all phases of construction to be approved by Owner and Engineer prior to the start of construction.
 - 1. Failure of the Contractor to abide the developed Traffic Control Plan shall result in a suspension of work until corrections are made to follow the submitted Traffic Control Plan.

PART 3- EXECUTION

3.1 MAINTENANCE OF TRAFFIC

- A. General: Maintain at least one-way traffic through the Work area during working hours and two-way traffic during the night and on weekends and holidays.

3.2 DETOURS

- A. General: Provide, identify and maintain suitable detours when the Project, or any part thereof, is closed to public travel.

When the closed part of the Project is reopened, restore the detour area, and any other disturbed areas, to the original condition as approved by the Engineer.

- B. Approval: All detours must be approved by Owner, Police and Fire Departments, MDOT, and Engineer.
- C. Request Approval of Detours: Make written request for detours two business days in advance of their proposed use.
- D. Notification: Notify Owner, Police Department, Fire Department, MDOT, and Engineer when detours are put into use and when they are reopened.

3.3 SCHEDULING OF WORK

- A. Revise the plan of Work if, in the opinion of the Engineer, it will create traffic hazard or an unreasonably long detour.
- B. Do not start Work in any new location without the permission of the Engineer.

3.4 SIGNS, BARRICADES, AND WARNING DEVICES

- A. Provide adequate warning signs, barricades, signal lights, and take other necessary precautions for the safety of the public.
- B. Provide and illuminate suitable warning signs to show where construction, barricade, or detours exist.
- C. Signal lights: Illuminate at all barricades and obstructions from sunset to sunrise.
- D. Maintain necessary signs, as required by the MDOT, barricades, lights, and other safety precautions during authorized suspension of the Work, weekends, holidays, or other times when construction Work is not in progress.

3.5 UNIFORMED TRAFFIC GUARDS

- A. Uniformed Traffic Guards: Provide uniformed traffic guards as required by MDOT, Owner, or the Engineer.

3.6 EXISTING SIGNS

- A. Temporarily Reset and Maintain street directory and regulatory signs which must be moved during construction. Relocate signs so that no traffic hazards are created.
- B. Permanently reset signs at designated locations prior to completion of Work.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART I- GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 RELATED SECTIONS

- A. Section 01 10 19 - Contract Considerations.
- B. Section 01 40 00- Quality Requirements.

1.3 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

1.4 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.5 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible.

- B. For exterior storage of fabricated products, place on sloped supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Store loose granular materials on solid flat surfaces in a well-drained area. Avoid mixing with foreign matter.
- E. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.6 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions. The use of "or equal" materials or equipment shall conform to the requirements set forth in Section 7.04 of the General Conditions.
- B. The Engineer will consider requests for substitutions as set forth in Section 7.05 of the General Conditions.

END OF SECTION

SECTION 030500

BASIC CONCRETE MATERIALS AND METHODS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes formwork, reinforcement, accessories, cast-in place concrete, finishing and curing.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate pertinent dimensioning and arrangement of joints and ties. Indicate reinforcement sizes, spacings, locations, and quantities, bending and cutting schedules, supporting and spacing devices. Indicate retaining walls and footings.
- B. Product Data: Indicate admixtures and anchors.
- C. Design Data: Submit mix design.

1.3 QUALITY ASSURANCE

- A. Construct and erect concrete formwork in accordance with ACI 301 and ACI 347.
- B. Perform concrete reinforcing work in accordance with ACI 301, CRSI 63, 65, and Manual of Practice.
- C. Perform cast-in-place concrete work in accordance with ACI 301 and ACI 305.

PART 2 PRODUCTS

2.1 FORM MATERIALS AND ACCESSORIES

- A. Form Materials: At discretion of Contractor.
- B. Form Ties: Snap-off, metal type of fixed length, cone type.
- C. Form Release Agent: Colorless mineral oil not capable of staining concrete.

2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, 60-ksi yield grade; deformed billet steel bars, plain finish.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for support of reinforcing; plastic tipped or non-corroding for supports are exposed to weather.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150, Normal-Type I Portland type.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.
- D. Air Entrainment Admixture: ASTM C260.
- E. Bonding Agent: Polymer resin emulsion.
- F. Non-shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.

2.4 CONCRETE MIX

- A. Mix and deliver concrete in accordance with ASTM C94, Alternative 2.
- B. Furnish concrete of the following strength:
 - 1. Compressive Strength: 2800 psi (7 day).
 - 2. Compressive Strength: 3000 psi (28 day) (foundation).
 - 3. Slump: 2 to 4 inches
 - 4. Compressive Strength: 4000 psi (28 day) (Slab).
- C. Select admixture proportions for normal weight concrete in accordance with ACI 301.
- D. Add air-entraining agent to concrete mix for concrete work exposed to exterior.

2.5 CONCRETE TREATMENT

- A. Sealant and hardener for the concrete.
 - 1. Manufacturers:
 - a. Anti-Hydro International, Inc.
 - b. Curecrete Distribution, Inc.
 - c. Dayton Superior Corp.
 - d. Euclid Chemical Co.
 - e. Horn.
 - f. L & M Construction Chemicals
 - g. Sika Corp.
 - h. Sonneborn.
 - i. Substitutions: Permitted.
 - 2. Non-Metallic Hardener: Type suitable for light to medium industrial use (pallet trucks and rolling storage carts; dry powder applied).
 - 3. Absorptive Mats: Burlap-Polyethylene.

PART 3 EXECUTION

3.1 FORMWORK ERECTION

- A. Erect formwork, shoring and bracing to achieve design requirements.
- B. Camber slabs and framing to achieve ACI 301 tolerances.
- C. Provide bracing to ensure stability of formwork.
- D. Form external corners of walls as indicated on Drawings.
- E. Apply form release agent to formwork prior to placing form accessories and reinforcement.
- F. Clean forms as erection proceeds, to remove foreign matter.

3.2 INSERTS, EMBEDDED COMPONENTS, AND OPENINGS

- A. Provide formed openings where required for work to be embedded in and passing through concrete members.
- B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Install concrete accessories straight, level, and plumb.

3.3 REINFORCEMENT PLACEMENT

- A. Place reinforcement, supported and secured against displacement.
- B. Ensure reinforcing is clean, free of loose scale, dirt, or other foreign coatings.

3.4 PLACING CONCRETE

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent.
- B. Place concrete continuously between predetermined expansion, control and construction joints. Do not break or interrupt successive pours creating cold joints.
- C. Where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack with non-shrink grout.

3.5 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

- B. Remove formwork progressively and in accordance with code requirements.

3.6 CURING

- A. Immediately after placement, protect concrete from premature drying.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete for not less than 7 days.
- C. After the moisture control period has completed, wait for the concrete to fully dry, then clean the surface from any foreign materials and apply hardening coating, as per the manufacturer recommendation of 3 coats, or equivalent product.

3.7 FORMED SURFACES

- A. Provide concrete surfaces to be left exposed with smooth rubbed finish.

3.8 FIELD QUALITY CONTROL

- A. Use ASTM C1077. See drawing for requirements.

3.9 DEFECTIVE CONCRETE

- A. Modify or replace concrete not conforming to required lines, details and elevations, as directed by Engineer.

END OF SECTION

SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes structural wall, and roof framing; built-up structural members; wall; preservative treatment; sill gasket and flashings; blocking in wall and roof openings; wood furring and grounds; electrical panel back boards, concealed wood blocking.

1.2 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 - 1. Lumber Grading Agency: Certified by NIST PS 20.
 - 2. Plywood Grading Agency: Certified by APA/The Engineered Wood Association.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

- A. Lumber Grading Rules: NELMA.
- B. Beam Framing: Stress Group D, Spruce-Pine-Fir species, Grade No. 2 or better, 19 percent maximum moisture content
- C. Rafter Framing: Stress Group D, Spruce-Pine-Fir species, Grade No. 2 or better, 19 percent maximum moisture content.
- D. Non-structural Light Framing: Stress Group D, Spruce-Pine-Fir species, Grade No. 2 or better, 19 percent maximum moisture content.
- E. Studding: Stress Group D, Spruce-Pine-Fir species, Stud grade or better, 19 percent maximum moisture content.
- F. Sill Plate: Pressure treated.

2.2 SHEATHING MATERIALS

- A. Plywood Roof Sheathing: EWA Rated Sheathing, Plywood, Span Rating 32/16; Exposure Durability 1; unsanded.
- B. Particleboard Wall Sheathing: APA Oriented Strand Board; wood shavings set with waterproof resin binder; exterior grade; unsanded faces.

- C. Electrical Panel Boards: Plywood.

2.3 SHEATHING LOCATIONS

- A. Above Grade Exterior Wall Sheathing: 5/8inch thick, 48 x 96 inch sized sheets, square edges.
- B. Above Grade Exterior Roof Sheathing: 5/8inch thick, 48 x 96 inch sized sheets, Tongue and Groove.

2.4 ACCESSORIES

- A. Fasteners: Galvanized steel for exterior, high humidity, and treated wood locations, plain finish elsewhere.
- B. Structural Framing Connectors: Galvanized steel, sized to suit framing conditions.
- C. Anchors: Expansion shield and lag bolt type for anchorage to solid concrete.
- D. Sill Gasket on Top of Foundation Wall: Plate width, closed cell foam strip.
- E. Sill Flashing (Under Sill Gasket): Galvanized steel.
- F. Building Paper: As specified in Section 07311.

2.5 WOOD TREATMENT

- A. Wood Preservative (Pressure Treatment): AWWA Treatment C1 using water borne preservative with 0.25 pcf retention.
- B. Wood Preservative (Surface Application): Clear.

PART 3 EXECUTION

3.1 FRAMING

- A. Erect wood framing members in accordance with applicable code. Place members level and plumb. Place horizontal members crown side up.
- B. Place full width continuous sill flashing on foundation wall.
- C. Place sill gasket directly on sill flashing.
- D. Bridge framing in excess of 8 feet span at mid-span members.

3.2 SHEATHING

- A. Secure wall sheathing with ends staggered, over firm bearing.

- B. Secure roof sheathing over trusses with ends staggered, nails to be installed at 6 inches on center on edges and 12 inches on center in field.

3.3 SITE APPLIED WOOD TREATMENT

- A. Treat site-sawn cuts. Brush apply two coats of preservative treatment on untreated wood in contact with cementitious materials and roofing and related metal flashings.
- B. Allow preservative to cure prior to erecting members.

END OF SECTION

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Rough Carpentry

SECTION 061753

WOOD TRUSSES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes shop fabricated wood trusses for roof framing; bridging, bracing, and anchorage; and preservative treatment of wood.

1.2 SYSTEM DESCRIPTION

- A. Design Snow Load: As per the drawings with deflection limited to 1/240 of span.
- B. Design Wind Load: Based on a Basic Wind Speed as defined on the drawings and an enclosed building; with deflection limited to 1/ 240 of span. Load is to be applied in combination with dead and snow load per IBC 2015 and ASCE 7-10.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate sizes and spacing of trusses and associated components, web and chord sizes, plate sizes, fastener descriptions and spacing, loads and truss cambers, and framed openings. Submit design calculations.
- B. Product Data: Provide truss configurations, bearing and anchor details, bridging and bracing.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with the following agencies:
 - 1. Lumber Grading Agency: Certified by NIST PS 20.
 - 2. Plywood Grading Agency: Certified by APA.
- B. Truss Design, Fabrication, and Installation: In accordance with TPI 1 and TPI HIB-91.
- C. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three (3) years documented experience.
- D. Design trusses under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Maine.
- E. Truss designer shall review truss layout for lateral bracing requirements and supply letter noting how it was addressed.

PART 2 PRODUCTS

2.1 WOOD TRUSSES

- A. Manufacturers:
 - 1. Mainely Trusses
 - 2. Aroostook Trusses
 - 3. Substitutions: Permitted.

2.2 MATERIALS

- A. Wood Members: Single top or bottom chord and web members, Stress Group D, Spruce-Pine-Fir species, Grade No. 2 or better, 15 percent maximum and 7 percent minimum moisture content. Finger scarfing not permitted.
- B. Steel Plate Connectors: TPI 1, Section 6; hot dip galvanized; die stamped with integral teeth.
- C. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

2.3 ACCESSORIES

- A. Wood Blocking and Framing for Openings: In accordance with Section 06100
- B. Fasteners and Anchors:
 - 1. Fasteners: Electro-galvanized steel.
 - 2. Anchors: Bolt or ballistic fastener for anchorages to wood.

2.4 FABRICATION

- A. Fabricate trusses to achieve structural requirements specified.
- B. Brace wood trusses for support in accordance with TPI HIB-91.
- C. Furnish top chord extensions as indicated on Drawings.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify supports and openings are ready to receive trusses.

3.2 PREPARATION

- A. Coordinate placement of support items.

3.3 ERECTION

- A. Install trusses in accordance with TPI HIB-91.
- B. Set members level and plumb, in correct position.
- C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in indicated alignment until completion of erection and installation of permanent bracing.
- D. Install permanent truss bracing per the requirements of the truss manufacturer and to the approval of the engineer.
- E. Do not field cut or alter structural members without approval of Architect/Engineer.
- F. Place headers and supports to frame openings.
- G. Frame openings between trusses with lumber in accordance with Section 06100.
- H. Coordinate placement of metal roofing with work of this section.

3.4 ERECTION TOLERANCES

- A. Framing Members: 1/2 inch maximum, from indicated position.

END OF SECTION

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Wood Trusses

SECTION 072100

THERMAL INSULATION
(FOR FUTURE USE)

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes batt thermal insulation and vapor retarder in exterior wall and roof construction.

1.2 SYSTEM DESCRIPTION

- A. System performance to provide continuity of thermal barrier at building enclosure elements.

1.3 RELATED DOCUMENTS

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data including thermal performance of materials.

PART 2 PRODUCTS

2.1 BUILDING INSULATION

- A. Manufacturers (Glass Fiber Batt):
 - 1. Certain Teed.
 - 2. Johns Manville
 - 3. UC Industries/Owens Corning.
 - 4. Owens Corning
 - 5. Substitutions: Permitted

2.2 COMPONENTS

- A. Batt Insulation – Walls: ASTM C764 Type 1, preformed glass fiber batt, conforming to the following:
 - 1. Thermal Resistance: R of 21.0, minimum.
 - 2. Batt Thickness: 5.5 inches.
 - 3. Facing: Unfaced.
- B. Batt Insulation – Roof: ASTM C764 Type 1, preformed glass fiber batt, conforming to the following:
 - 1. Thermal Resistance: R 38 or as noted on drawings
 - 2. Batt Thickness: 10 inches.
 - 3. Facing: Unfaced.

- C. Rigid Insulation – Extruded Polystyrene Foam Insulation
 - 1. Thermal Resistance: R of 10, minimum
 - 2. Rigid Insulation: 2 inches
 - 3. Min 40 psi min compressive strength.
 - 4. Tongue and groove

2.3 ACCESSORIES

- A. Adhesive: Type recommended by insulation manufacturer for application.
- B. Sheet Vapor Retarder: Type A as specified in Section 07260.
- C. Tape: Polyethylene self-adhering type, mesh reinforced, 2 inch wide.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate, adjacent materials, and insulation boards are dry and ready to receive insulation.

3.2 INSTALLATION

- A. Batt Insulation:
 - 1. Fit insulation tight in spaces. Leave no gaps or voids.
 - 2. Install friction fit insulation tight to framing members, completely filling prepared spaces.
 - 3. Coordinate with installation of vapor retarder.
 - 4. Coordinate with installation of air barrier.
 - 5. Fill voids in built up framing members prior to assembly.
- B. Slab Insulation:
 - 1. Coordinate with installation with slab.
 - 2. Remove any objects from intended fill space that might interfere with the proper application of the insulation.
 - 3. Install the rigid insulation.
 - 4. Install new concrete.

END OF SECTION

SECTION 073113
ASPHALT SHINGLES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Asphalt shingles.
 - 2. Underlayment.
 - 3. Eave protection.
 - 4. Ridge and eave vents.
 - 5. Metal flashings and accessories.

1.2 SUBMITTALS

- A. Product Data: Submit data indicating material characteristics, and limitations.
- B. Samples: Submit two 24 x 24 inch samples of each shingle color indicating color range and finish texture/pattern; for color and texture selection.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Do not install eave protection and shingles when ambient air, or wind chill temperatures are below 45 degrees F

1.4 WARRANTY

- A. Furnish 30 year manufacturer warranty for asphalt shingles.

PART 2 PRODUCTS

2.1 ASPHALT SHINGLES

- A. Manufacturers:
 - 1. Celotex Corporation.
 - 2. Certain Teed Corporation.
 - 3. GAF Building Materials Corporation.
 - 4. Owens Corning Fiberglas Corp.
 - 5. Substitutions: Permitted
- B. Product Description: Asphalt shingles conforming to ASTM D3018, Class A with Type I - Self Sealing. ASTM D3462; UL Rating of A and Wind Resistance Label, glass fiber mat base, mineral granule surface type; 95 lb/100 sq ft weight; self sealing type; staggered edge butt type; color and texture as selected.

2.2 COMPONENTS

- A. Eave Ice Dam Protection: Sheet barrier of rubberized asphalt bonded to sheet polyethylene, 40 mil total thickness, with strippable treated release paper; as manufactured.
- B. Underlayment: ASTM D226, No. 15 unperforated asphalt saturated felts as recommended for use in waterproofing and in construction of built-up roofs.
- C. Underlayment option: Use Roof Top Guard roof underlayment or GCP applied technologies Tri-Flex 15 Roll Synthetic Roofing Underlayment.

2.3 RIDGE AND EAVE VENTS

- A. Ridge and Hip Vents: Plastic, nominal 12 inches wide with vent openings that do not permit direct water or weather entry; to receive cap shingles; minimum 18 sq inches/foot net free area. (Design based on Shingle Vent II by Air Vent Inc.)
- B. Eave Vents: Supplied by vented soffit (see vinyl siding specification) and an intake vent.
- C. Starter and End Caps: As required to suit application.

2.4 ACCESSORIES

- A. Nails: Standard round wire shingle type hot dipped zinc coated steel type, of sufficient length to penetrate 3/4 inch into roof sheathing.
- B. Plastic Cement: ASTM D4586, Asphalt type with mineral fiber components, free of toxic solvents, capable of setting within 24 hours at temperatures of 75 degrees F and 50 percent RH.
- C. Lap Cement: Fibrated cutback asphalt type, recommended for use in application of underlayment, free of toxic solvents.
- D. Flashing Materials:
 - 1. Sheet Flashings and Ridge Vents: ASTM B209 and ASTM B209M, 0.03 inch thick aluminum; mill finish.

2.5 FABRICATION

- A. Form flashings to protect roofing materials from physical damage and shed water.
- B. Form flashing sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
- C. Hem exposed edges of flashings minimum 1/4 inch on underside.
- D. Apply bituminous paint on concealed surfaces of flashings.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify roof penetrations and plumbing stacks are in place and flashed to deck surface.
- B. Verify roof openings are correctly framed.
- C. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.2 PREPARATION

- A. Broom clean deck surfaces under eave protection and underlayment.

3.3 INSTALLATION

A. Eave (Ice Dam) Protection Installation:

- 1. Place eave edge and gable edge metal flashings tight with fascia boards. Weather lap joints minimum 2 inches and seal with plastic cement. Secure flange with nails.
- 2. Apply 4 inch wide band of plastic cement over deck flange of eave edge flashings, and embed minimum 8 inch wide strip of underlayment. Place underlayment starter strip with eave edge flush with face of flashings. Secure in place. Lap ends minimum 6 inches.
- 3. Apply lap cement at rate of approximately 1-1/4 gal/100 sq ft over underlayment starter strip.
- 4. Starting from lower edge of starter strip, lay additional 36 inch wide strips of underlayment in lap cement, to produce two ply membrane. Weather lap plies minimum 9 inches and nail in place. Lap ends minimum 6 inches. Stagger end joints of each consecutive ply.
- 5. Extend eave protection membrane minimum 4 ft up-slope beyond interior face of exterior wall.

B. Protective Underlayment Installation:

- 1. Place one ply of underlayment over area not protected by eave protection, with ends and edges weather lapped minimum 6 inches. Stagger end laps of each consecutive layer. Nail in place.
- 2. Place second ply of underlayment over first layer with ends and edges weather lapped minimum 6 inches. Stagger end laps of each consecutive layer. Nail in place.
- 3. Install protective underlayment perpendicular to slope of roof and weather lap minimum 4 inches over eave protection.
- 4. Weather lap and seal watertight with plastic cement items projecting through or mounted on roof.

C. Valley Protection Installation:

- 1. Place rubberized asphalt/polyethylene sheet as valley protection.

D. Metal Flashing and Accessories Installation:

- 1. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.
- 2. Secure in place with nails. Conceal fastenings.
- 3. Flash and seal Work weather tight, projecting through or mounted on roofing with plastic cement.

E. Asphalt Shingles Installation:

1. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over full roof area. Install double course of shingles at eaves.
2. Project first course of shingles 3/4 inch beyond fascia boards.
3. Extend shingles 1/2 inch beyond face of gable edge fascia boards.
4. Extend shingles on both slopes across valley in weave pattern and fasten. Extend shingles minimum of 12 inches beyond valley center line to achieve woven valley, concealing valley protection.
5. Cap hips and ridges with individual shingles, maintaining 5 inch weather exposure. Place to avoid exposed nails.
6. Install ridge vents centered over ridge.
7. Cap hips and ridges with individual shingles. Place to avoid exposed nails.
8. Coordinate installation of roof mounted components or Work projecting through roof with weather tight placement of Counterflashings.
9. Complete installation to provide weather tight service.

END OF SECTION

SECTION 074213 - METAL WALL PANELS
(TO BE USED IN FUTURE)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal liner panels.

1.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Metal wall panel assemblies shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.

- B. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft..

- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of wall panel and accessory.

- B. Samples for Initial Selection: For each type of metal wall panel indicated with factory-applied color finishes.

1. Include manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each sealant exposed to view.

- C. Qualification Data: For Installer.

- D. Maintenance Data: For metal wall panels to include in maintenance manuals.

- E. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of metal wall panel from single source from single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, metal wall panels, and other manufactured items so as not to be damaged or deformed. Package metal wall panels for protection during transportation and handling.
- B. Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.

1.6 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.

1.7 COORDINATION

- A. Coordinate metal wall panel assemblies with rain drainage work, flashing, trim, and construction of **studs**, and other adjoining work to provide a leak-proof, secure, and noncorrosive installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal wall panel assemblies that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.

- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS METAL FRAMING

- A. Base or Sill Angles: 0.079-inch nominal thickness.

2.2 MISCELLANEOUS MATERIALS

- A. Panel Fasteners: Self-tapping screws, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal wall panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.

2.3 EXPOSED-FASTENER, LAP-SEAM METAL LINER PANEL

- A. General: Provide factory-formed metal wall panels designed to be field assembled by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
- B. Tapered-Rib-Profile, Exposed-Fastener Metal Wall Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide ATAS Belvedere Grand R or comparable product by one of the following:
 - a. AEP-Span.
 - b. Architectural Metal Systems.
 - c. Berridge Manufacturing Company.
 - d. Butler Manufacturing Company
 - e. CENTRIA Architectural Systems.
 - f. Copper Sales, Inc.
 - g. Englert, Inc.
 - h. Fabral.

- i. Flexospan Steel Buildings, Inc.
 - j. Galvamet.
 - k. MBCI; Div. of NCI Building Systems.
 - l. McElroy Metal, Inc.
 - m. Metal Sales Manufacturing Corporation.
 - n. Metecno-Morin.
 - o. Petersen Aluminum Corporation.
 - p. Steelox Systems, L.L.C.
 - q. United Steel Deck, Inc.; Subsidiary of Bouras Industries Inc.
 - r. VICWEST; Div. of Jenisys Engineered Products.
 - s. Substitutions acceptable:
- 3. Material: Zinc-coated (galvanized) steel sheet 24 gauge
 - a. Kynar 500 PVDF
 - b. Textured: SMOOTH
 - 4. Major-Rib Spacing: 13" o.c.
 - 5. Panel Coverage: 39"
 - 6. Panel Height: 1.5 inches.

2.4 ACCESSORIES

- A. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.
- B. Flashing and Trim: Formed from 0.018-inch minimum thickness, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal wall panels.

2.5 FABRICATION

- A. General: Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Fabricate metal wall panels in a manner that eliminates condensation on interior side of panel and with joints between panels designed to form weathertight seals.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

- D. Fabricate metal wall panel joints with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, and that will minimize noise from movements within panel assembly.
- E. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

2.6 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of work.
 - 1. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
 - 2. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
- B. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 METAL WALL PANEL INSTALLATION

- A. General: Install metal wall panels according to manufacturer's written instructions in orientation, sizes, and locations indicated on Drawings. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Shim or otherwise plumb substrates receiving metal liner panels.
 2. Flash and seal metal wall panels at perimeter of all openings. Fasten with self-tapping screws.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal wall panel work proceeds.
 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 7. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 8. Provide weathertight escutcheons for pipe and conduit penetrating exterior walls.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action as recommended by metal wall panel manufacturer.
- C. Metal Liner Panels: Install panels on wood girts or sheathing.

3.3 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 15 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

3.4 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal liner panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.

- B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074213

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SECTION 074600

SIDING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes sheathing paper, vinyl siding for walls, related trim, flashings, accessories, and fastenings.

1.2 SUBMITTALS

- A. Product Data: Submit data indicating materials, component profiles, fastening methods, jointing details, sizes, surface texture, finishes, and accessories.
- B. Selection Samples: Submit color chips, 8 x 8 inch in size illustrating manufacturer's full range of colors and textures.

PART 2 PRODUCTS

2.1 VINYL SIDING

- A. Manufacturers:
 - 1. Alcoa Building Products, Inc.
 - 2. CertainTeed Corp.
 - 3. Owens Corning.
 - 4. Substitutions: Permitted.
- B. Product Description: Vinyl siding and trim conforming to ASTM D1784; Double 4 profile, 8-inch exposure; nominal 0.046 inch material; nominal 12'-6" piece length; single row nailing hem of elongated nailing holes 1-1/4 inch long at 18 inches on center; color and texture as selected.

2.2 COMPONENTS

- A. Vinyl Siding Trim:
 - 1. J-Trim: Channel, 1-1/2 inches nailing leg, 3/4 inch forward leg, 7/8-inch channel width; color as selected.
 - 2. Finishing Trim: 1-1/2 inches nailing leg, 3/4 inch forward leg; color as selected.
 - 3. Starter Strip: Single-row nailing hem with elongated nailing holes 1-1/4 inches long 18 inches on center; color as selected.

2.3 ACCESSORIES

- A. Nails: Hot dipped galvanized coated steel type, non-staining.

- B. Building Paper: ASTM D226, No. 15 unperforated asphalt-saturated felt.
- C. Flashings: 26 gage thick metal, galvanized.
- D. Accessory Components: Facias, starter strips, and trim; of same material and finish as siding.
- E. Joint Sealants: Sealant B as specified in Section 07900..

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine substrate conditions before beginning installation of vinyl products; verify dimensions and acceptability of substrate.
- B. Do not proceed with installation of vinyl products until unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install one layer of building paper horizontally on sheathed walls. Weather lap edges and ends. Staple in place.
- B. Install vinyl products in accordance with manufacturer's printed installation instructions.
- C. Attach vinyl products to substrate for weathertight installation; ensure that horizontal components are installed true to level, that vertical components are installed true to plumb.
- D. Installation of joint sealers is specified in Section 07900.
- E. Install metal flashings at sills and as shown on the Drawings..
- F. Install closures and trim.

3.3 CLEANING

- A. Clean dirt from surface of installed products, using mild soap and water.
- B. After completing installation of vinyl products, remove from project site excess materials and debris resulting from installation of vinyl products.

END OF SECTION

SECTION 079200

JOINT SEALERS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes sealants and joint backing.

1.2 SUBMITTALS

- A. Product Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

PART 2 PRODUCTS

2.1 JOINT SEALERS

- A. Manufacturers:
 - 1. Dow Corning Corp.
 - 2. GE Silicones.
 - 3. Pecora Corp.
 - 4. Sika Corp.
 - 5. Substitutions: Permitted.
- B. Product Description:
 - 1. General Purpose Exterior (Nontraffic) Sealant (Sealant A): Acrylic, solvent release curing; ASTM C920, Grade NS, Class 12-1/2, Uses M, G, and A; single component.
 - a. Color: Standard colors matching finished surfaces.
 - b. Applications: Use for:
 - 1) Control, expansion, and soft joints in masonry.
 - 2) Joints between concrete and other materials.
 - 3) Joints between metal frames and other materials.
 - 4) Other exterior nontraffic joints for which no other sealant is indicated.
 - 2. Exterior Metal Lap Joint Sealant (Sealant B): Butyl or polyisobutylene, non-drying, non-skinning, non-curing.
 - a. Applications: Use for concealed sealant bead in sheet metal work and concealed sealant bead in siding overlaps.

3. General Purpose Interior Sealant (Sealant C): Acrylic emulsion latex; ASTM C834, single component, paintable.
 - a. Color: standard colors matching finished surfaces.
 - b. Applications: Use for interior wall and ceiling control joints, joints between door frames and wall surfaces, and other interior joints for which no other type of sealant is indicated.:

2.2 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate surfaces and joint openings are ready to receive work.
- B. Verify joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

- A. Remove loose materials and foreign matter impairing adhesion of sealant.
- B. Clean and prime joints.
- C. Perform preparation in accordance with ASTM C1193.

3.3 INSTALLATION

- A. Perform installation in accordance with ASTM C1193.
- B. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.
- C. Install bond breaker where joint backing is not used.
- D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

- E. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- F. Tool joints concave.

3.4 SCHEDULE

- A. Exterior Joints for Which No Other Sealant Type is Indicated: Type A.
- B. Lap Joints in Exterior Sheet Metal Work: Sealant B.
- C. Joints Between Exterior Metal and Adjacent Work (except masonry): Sealant A.
- D. Interior Joints for Which No Other Sealant is Indicated: Sealant C.

END OF SECTION

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Joint Sealers

SECTION 081113

Hollow Metal Doors, Frames, and Finish Hardware

PART 1 - General

1.1 DESCRIPTION OF WORK:

- A. This section requires that all labor, material, equipment and related items, necessary to furnish hollow metal (steel) doors and finish hardware.
- B. The material supplied shall meet all minimum requirements as set forth in the plans and specifications and shall include, but not be limited to furnishing and installing the following:
 - 1. Hollow metal (steel) frames for doors and interior and exterior walls glazing frames where indicated on plans, schedules or details.
 - 2. Hollow metal (steel) doors for all openings where indicated on plans, schedules or details.
 - 3. Finish hardware for all hollow metal (steel), in accordance with hardware specifications and Hardware set numbers indicated on door schedule.

1.2 RELATED DOCUMENTS:

- A. Drawings and general provisions of the General Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to all work of this section.

1.3 RELATED WORK:

- A. Paints & Coatings - Doors to be finish painted as noted in spec.
- B. Joint Sealers: As required to seal the doors.

1.4 QUALITY ASSURANCE:

- A. All material furnished and installed in accordance with this section of the specification shall meet the minimum requirements of size, design, gauges, insulating values and prime finish specified herein.
- B. The successful subcontractor shall furnish a letter, signed by an officer or principal of the firm, stating that the materials being submitted for approval by the architect, all of the requirements in Paragraph 'a' above.

1.5 REFERENCES:

- A. The following references apply to requirements for this project:
 - 1. NFPA 101 Life Safety Code

2. Hollow Metal Technical and Design Manual by NAAMM
3. Finish Hardware: ANSI A156
4. All applicable Life Safety and Building Codes

1.6 SUBMITTALS:

- A. Product Data: Submit manufacturers technical product data substantiating that all components of the hollow metal (steel) doors and frames, finish hardware conform in all respects, to the requirements of the plans and specifications.
- B. Shop Drawings: Submit for approval three sets of shop drawings plus number of copies Contractor wants returned and one separate copy for hollow metal (steel) doors and frames and wood doors. These shop drawings shall include individual listings and elevations of each door and frame opening, details of construction, joints, connections, label requirements, reinforcements, glazing, anchors and accessories and installation information.
- C. Finish Hardware Schedule: Submit for approval three (3) type-written copies of the finish hardware schedule. The schedule shall be in a vertical format and include the listing of doors and frames by architectural door number, location, hand, size, and type. The hardware schedule shall include complete keying information, the listing of all manufacturers whose products are scheduled therein, and all other pertinent information necessary for review and approval.
- D. Samples: If requested by the architect, the subcontractor shall supply the following samples for approval:
 1. Corner sample of 18-gauge hollow metal (steel) door.
 2. Corner sample of 16 gauge welded hollow metal (steel) door frame.
 3. Lockset with lever handle trim.
 4. Exit device with lever handle trim.
 5. Door closer with Cush-N-Stop arm.
 6. Full mortise hinge.

1.7 DELIVERY, STORAGE AND HANDLING:

- A. Doors and frames shall be delivered to the job site by common carrier received and stored there by the subcontractor. The general contractor shall provide storage space for set up and welded door frames. It shall also be the general contractor's responsibility to provide enclosed covered storage space for hollow metal (steel) doors, and finish hardware. The storage space shall be a dry, secure and lockable area, and shall not include products of other trades.
- B. All doors, frames and hardware shall have the necessary anchors, plates, screws, bolts and other fastenings required for accurate and correct installation.

- C. Doors, frames, locksets, exit devices and door closers shall be clearly marked with the respective architectural door number identification shown on the architect's door schedules.

1.8 WARRANTY:

- A. All material specified in this section of the specifications, including hollow metal (steel), and finish hardware shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of substantial completion.
- B. If any door, frame or item of hardware is found to be defective by reasons of imperfect in material and workmanship, it shall be replaced by this subcontractor at no charge to the owner. The cost for installation of the replacement item shall be the responsibility of this subcontractor, if within the building guarantee period specified under general conditions, or by the owner if beyond the guarantee period.

1.9 APPROVAL OF SUBSTITUTIONS:

- A. Manufacturers of doors, frames and hardware are listed herein to establish a standard of quality. If products other than those specifically identified herein are to be considered for use on this project, they must be submitted for approval by the construction manager at least ten (10) calendar days prior to receipt of bids by the construction manager.
- B. Requests for approval of substitutions shall be submitted in writing, to the architect, and must be accompanied by catalog cuts, technical information and physical samples.
- C. Approval for substitutions will only be valid when issued to all bidders, by the construction, in the form of an addendum to this specification.

PART 2 - PRODUCTS:

2.1 HOLLOW METAL (STEEL) DOORS:

- A. Doors designed to be equal to type 707S as manufactured by Curries Manufacturing, Inc., Mason City, Iowa. All doors shall be 18-gauge steel 1 3/4" full flush construction and reinforced, stiffened, insulated and sound deadened with a solid slab of expanded polystyrene foam permanently bonded to the inside face of each skin. Both lock and hinge stile edges shall be full flush, welded, filled and ground smooth.
- B. The lock and hinge stiles shall be reinforced with a one piece, full height, steel channel which shall be embossed, drilled and tapped for hinges and strike. The

hinge stile reinforcing channel shall be 12-gauge steel, and the lock stile reinforcing channel shall be 14 gauge steel.

- C. Top and bottom of door shall have 16-gauge steel inverted closure channels. The top channel shall have a steel or vinyl top cap.
- D. All doors shall be beveled 1/8" in 2" at lock edge. Square edge doors shall not be considered acceptable.
- E. All doors shall be bonderized and finished with one coat of baked-on primer. Exposed galvanized finish shall not be considered acceptable.
- F. Reinforcing for door closers shall be 12-gauge steel.
- G. Cut and trim openings for glass lights and louvers, as indicated on architectural drawings. Louvers and frames for glass lights shall be steel with a beige factory primed finish. Steel frames for all glass lights shall meet the minimum requirements for fire rated assemblies in accordance with ASTM E152 testing procedures. Glass and louver opening cut-outs shall be within the dimensions needed to maintain the requirements of the warranty.
- H. Vision kit shall be integral type with loose channel modeling equal to Curries Type "4".

2.2 HOLLOW METAL (STEEL) FRAMES:

- A. **(EXTERIOR & INTERIOR)**
 - 1. Hollow metal (steel) door and window frames shall have a 2" face and be as detailed on the architectural drawings. Exterior steel door and window frames shall be manufactured of 14-gauge cold rolled A90 or G90 galvanized steel. Interior steel door and window frames shall be manufactured from 16-gauge cold rolled steel.
- B. All frames shall be saw mitered on a high-speed metal cutting saw, corner joints shall be continuously welded, filled and ground smooth to a perfectly smooth surface at all exposed faces.
- C. All frames shall be thoroughly degreased and cleaned of all imperfections before painting. All frames shall be bonderized and shall receive a factory coat of baked on rust inhibitive primer. Where welded joints at corners and mullions occur, the exposed steel shall be painted to match the prime coat finish of the frame. .
- D. Frames shall be reinforced, drilled and tapped for all mortise hinges, locks and lock strikes. Frames shall be reinforced only for surface applied hardware, with drilling and tapping to be done in the field by this subcontractor. The hinge reinforcement for all frames shall be 7-gauge steel. The door closer reinforcing shall be 12-gauge steel. Lock strike reinforcing shall be 14 gauge.

- E. Frames shall be set up and welded. They shall be shipped with a spreader bar welded to the base (bottom) of each frame for in transit support. Spreader bars shall be removed at the time of frame installation, and replaced by a metal or wood spreader carefully dimensioned to permit square, true installation.
- F. Frames for single doors shall have three rubber silencers on lock jamb stop. For pairs of doors, provide two rubber silencers at the head stop.
- G. Weatherstripping, thresholds and door bottoms are specified under the finish hardware portion of this section of the specification.
- H. Hollow metal (steel) doors and frames manufactured by the following firms, meeting all requirements of this specification, shall be considered acceptable for this project.
 - 1. Curries Mfg. Inc., Mason City, Iowa
 - 2. Steelcraft Mfg. Company, Cincinnati, Ohio
 - 3. Mesker Industries, Inc.

2.3 GLAZING

- A. Flat Glass Manufacturers:
 - 1. Pittsburgh Plate Glass.
 - 2. Pilkington.
 - 3. Guardian.
 - 4. Substitutions: Permitted.
- B. Safety Glass (Type SG): Conform to ANSI Z97.1, minimum thickness 1/4 inch unless otherwise indicated.
 - 1. Clear Tempered Glass (Type SG-CT): ASTM C1048, Kind FT Fully tempered, Condition A, uncoated, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select; with horizontal tempering.

2.4 FINISH HARDWARE:

A. HINGES:

1. All hinges for this project shall be, steel, stainless steel, solid bronze, ball bearing type except as noted.
2. The following is a guide for hinge size and type required for this specification.
 - a. Manufactures

	Manufacturer	Exterior	Interior
1 3/4" Wood Doors	Stanley	FBB199-4 1/2"	FBB179-4 1/2"
	Hager	BB1199-4 1/2"	BB1279-4 1/2"
	McKinney	T4A3386-4 1/2"	TB2714-4 1/2"
1 3/4" Hollow Metal	Stanley	FBB199-4 1/2"	FBB168-4 1/2"
(Steel) Doors	Hager	BB1199-4 1/2"	BB1168-4 1/2"
	McKinney	T4A3386-4 1/2"	T4B3786-4 1/2"

- b. The width of hinges shall be sufficient to clear all trim
 - c. Doors in channel iron frames shall have half mortise hinges of a comparable weight as listed for full mortise hinges.
 - d. Hinges of foreign manufacture shall not be considered acceptable for this project.
3. Two hinges shall be provided for each door leaf up to and including five feet (5'0") in height. An additional hinge shall be required for each additional two and one half (2'6") or fraction thereof in height.
4. All exterior doors shall be furnished with non-removable pins (NRP).
5. Refer to finish section for hinge finish.

B. HEAVY DUTY LEVER HANDLE CYLINDRICAL LOCKS:

1. Coordinate locks with owner.
2. Locksets for this project shall be heavy duty cylindrical key in lever handle type locksets.
3. Locksets shall be 2 3/4" backset with 1/2" throw latchbolt, with deadlocking latch, and a cylindrical housing of steel with a zinc dichromate finish.
4. Locksets shall be fastened by thru bolts, thru the 3 1/2" diameter inside rose back plate into the threaded studs in the outside rose back plate. Thru bolts shall be placed in separate bolt holes, thru the door and outside the cylindrical case at 180 degree from each other.
5. Cylinder for lever handle cylindrical locks shall be 6 pin tumbler, solid brass, with nickel silver keys. Two keys shall be supplied with each lock or cylinder. See "Keying Section 2.01F" for masterkey information.

6. The ½” throw latchbolt shall be listed and approved for use by Underwriters Laboratories.
7. Strikes shall be curved lip ANSI A – 115.2 4 7/8” x 1 ¼” wrought brass or bronze.
8. The following locksets shall be considered acceptable for this project:

Sargent	“10” Line	LL Design
Schlage	ND	

9. All locksets and cylinders for this project, shall be by the same manufacturer and shall be manufactured in the United States of America by a reputable builders hardware manufacturer.
10. The following is a list of lock functions as indicated under “hardware set”:

<u>FUNCTION</u>	<u>SARGENT</u>	<u>SCHLAGE</u>
(1)	04	80
(2)	05	50
(3)	15	10
(4)	37	70
(5)	65	40
(6)	16	?

C. BORED DEADLOCKS:

1. Where deadlock functions are listed in the hardware set numbers, provide 2 ¾” backset bored deadlocks, that will fit a 2 1/8” diameter door preparation.
2. Deadlocks shall have a minimum ¾” throw deadbolt with hardened steel pin. Lock front shall be beveled 1/8” in 2”.
3. The following manufacturers and model numbers will be acceptable:

Sargent	480	Series
Schlage	B460	Series

4. The following functions shall be required where specified:

<u>FUNCTION</u>	<u>SARGENT</u>	<u>SCHLAGE</u>
I	4	62
II	5	60
III	6	64
IV	7	63
V	9	80

D. MEDECO HI-SECURITY CYLINDERS:

1. Coordinate locks with owner's current system.
2. Provide Medeco, high security, pick-resistant, cylinders and keys for the masterkey system for this project. The cylinders for all locksets shall be supplied in the Medeco Biaxial CWS restricted keyway. No other keyway by Medeco or any other lock manufacturer shall be considered acceptable for this project. This masterkey system shall be assigned its own special registration number. This registration number shall be stamped on all keys and cylinders.
3. All lock cylinders for this project are to be of the pick-resistant, high security type with angled key cuts and rotating tumblers as manufactured by Medeco Security Locks, Inc. All cylinders shall be Underwriters Laboratories Listed (UL 437) standard for key locks. All lock cylinders are to incorporate a dual-locking principle consisting of a side-bar mechanism and tumbler rotation and elevation. The critical parts of the locking mechanism, pins, shear line and side bar shall be afforded extra protection from drilling and other forceful attacks by the strategic placement of hardened steel inserts.
4. The locking system is to be furnished in a factory restricted, Biaxial CWS, key section, for which uncut keys are not made available from the manufacturer's factory to any source other than a registered factory authorized Biaxial CWS Key System distributor. All key duplication must be done at the distributors shop, upon receipt of a properly authorized and signed order form.
5. The factory shall make available the capability of a minimum of three possible angles of cut on the key blade. All cylinders shall be completely rekeyable to new combinations. The product shall be immediately serviceable on location by the authorized Biaxial CWS Key System distributor.
6. The locking system established for this project shall be proprietary and the owner will furnish to the distributor a list of those persons and their signatures, who will be authorized to order additional materials or duplicate keys. Orders not bearing authorized signatures will be returned. The masterkeys and change keys for this project shall be sent by registered mail or UPS AOD (acknowledgement of delivery) from the distributor directly to the owner.
7. The distributor shall provide the owner with form 218, Medeco Security System Authorized Signature Card. It is required that at least two (2) persons, authorized to order keys and cylinders, sign this authorization card. In addition, the distributor shall provide the owner with five (5) form 217, for acceptable order authorization form that must be signed by an authorized person and accompany all orders for keys and cylinders.
8. Provide for a masterkey system for this project. Furnish a total of masterkeys AA. Provide visual key control and stamp keys and cylinders. Furnish a minimum of four (4) change keys for each keyed different change.

9. Coordinate keying with owners existing plan.

E. MECHANICAL PUSH BUTTON LOCKS

1. Design based upon CODELOCKS CL610
2. Tubular Mortice latch
3. Tested to Grade 2 ANSI A156.8
4. 8000 potential combinations.
5. Brushed steel and Polished brass finishes.

F. PUSH - KICK - MOP ARMOR PLATES:

1. Push plates shall be .050-gauge solid stainless steel 16" high by 8" wide.
2. Kick plates shall be .050-gauge solid stainless steel 12" high by 1 1/2" less door width.
3. Kick plates shall be applied on the push side of all doors requiring door closers except for storage, electrical and mechanical rooms.
4. Armor plates shall be .050-gauge solid stainless steel 40" high by 1 1/2" less door width for single doors and 1" less door width for pairs of doors.

G. SILENCERS:

1. Unless furnished by metal door frame manufacturer, provide rubber silencers for all interior pressed steel (hollow metal) frames. Silencers shall be pneumatic type 1/2" diameter with 1/8" projection.
2. Provide 3 silencers for the strike jamb of metal frames for single doors and two for the head for metal frames for pairs of doors. Provide 4 silencers for the strike jamb for frames for single dutch doors.

H. THRESHOLDS - WEATHERSTRIPPING - DOOR BOTTOMS:

1. Provide extruded or cast aluminum thresholds, as detailed on door schedule drawings. The thresholds shall be 7" and 8" wide by full width of door opening for all doors as required in the door schedule. Thresholds shall be 1/2" high and shall have beveled edges and a corrugated surface. Anchor thresholds with no less than four (4) machine screw anchors for 3'0" lengths. Provide nonferrous solid brass or stainless steel screws.
2. All thresholds shall have a non-skid abrasive surface with a metalized coating of hard aluminum-nickel alloy bonded into the aluminum threshold at high temperature no less than 7200° F.
3. Provide premium quality aluminum and vinyl weather-strip door seal for head and jambs for all door frames specified to require weather-stripping in the remarks column of the door schedule. The seals shall be an airfoil design to permit full and positive closure between door and jamb. The aluminum housing shall have a factory applied pressure sensitive two-way tape to permit adhesive application of the weatherstripping, prior to installation of Tech-Type self-drilling screws. After the weatherstripping is adhesive applied, Tech-Type self-drilling screws shall be used to fasten the aluminum housing in place.

4. The door bottom seal shall be concealed in the bottom of the door and shall be a flexible synthetic vinyl that will not take a formal set, nor break or flake in cold weather. The door bottom seal shall extend the full width of the door and shall also extend below the door bottom and compress against the top for the threshold, for complete closure. The door bottom seal shall be fastened to the recessed channel with 3 or 4 screws through the seal or the seal chassis.
5. Surface applied door bottoms shall not be considered acceptable. Concealed door bottoms must be installed before the door is in place.

I. FINISH:

1. With the exceptions of hinges, door closers, plates, coordinators, thresholds and weatherstripping, all hardware items shall be furnished in satin chrome finish US26D.
2. Exceptions are as follows:
 - a. Exit Devices: Satin Stainless Steel US32D
 - b. Door Closers: Sprayed Aluminum
 - c. Pulls & Plates: Satin Stainless Steel US32D
 - d. Thresholds:
 - e. Weatherstripping: Aluminum

2.5 HARDWARE SET NUMBERS:

- A. The Hardware Sets listed on the drawings are items of hardware required for each opening. It is the bidder's responsibility to accurately furnish the proper quantities, items, sizes, weights and functions as required by the plans and this specification. If an opening has, through error, been omitted from the following hardware set numbers listings, it shall be the bidders responsibility to supply hardware of equivalent quality and quantity, as that which is specified for a comparable opening.

PART 3 EXECUTION

3.1 INSPECTION

- A. It shall be the general contractor's responsibility to inspect all door openings and doors to determine that each door and door frame has been properly prepared for the required hardware. If errors in dimensions or preparation are encountered, they are to be corrected by the responsible parties prior to the installation of hardware.

3.2 PREPARATION

- A. All doors and frames, requiring field preparation for finish hardware, shall be carefully mortised, drilled for pilot holes, or tapped for machine screws for all

items of finish hardware in accordance with the manufacturer's templates and instructions.

3.3 INSTALLATION/ADJUSTMENT/LOCATION

- A. All materials shall be installed in a workmanlike manner following the manufacturer's recommended instructions.
- B. Exit devices shall be carefully installed so as to permit friction free operation of crossbar, touch bar, thumb latch, lever or knob. Latching mechanism shall also operate freely without friction or binding.
- C. Installation of all other hardware, including locksets, push-pull latches, overhead holders, door stops, plates and other items, shall be carefully coordinated with the hardware schedule and the manufacturers instruction sheets.
- D. Locations for finish hardware shall be in accordance with dimensions listed in the pamphlet "Recommended locations for Builders' Hardware" published by the Door and Hardware Institute.
- E. Supply blocking at all locations need to protect access and finishes. Including but not limited to jambs, stickers and door stops.

3.4 PROTECTION

- A. All exposed portions of finish hardware shall be carefully protected, by use of cloth, adhesive backed paper or other materials, immediately after installation of the hardware item on the door. The finish shall remain protected until completion of the project. Prior to acceptance of the project by the architect and owner, the general contractor shall remove the protective material exposing the hardware finish.

3.5 CLEANING

- A. It shall be the responsibility of the general contractor to clean all items of finish hardware and to remove any remaining pieces of protective materials and labels.

3.6 INSTRUCTIONS AND TOOLS

- A. It shall be the responsibility of the finish hardware supplier to provide installation and repair manuals and adjusting tools, wrenches, etc... for the following operating products:
 - 1. Locksets (all types)
 - 2. Exit devices (all types)

END OF SECTION

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Doors, Frames, Hardware

SECTION 083323
OVERHEAD DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes manual and electrical overhead sectional doors of steel panels of flush design, operating hardware, and controls.

1.2 SYSTEM DESCRIPTION

- A. Operating System: Conform to following criteria:
 - 1. Manual operation with pull chain operation requiring maximum exertion of 25 lbs force.
 - 2. Electric operation with manual operation in case of power failure; transit speed of 12 inches per second.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate opening dimensions and tolerances, component construction, connections and details, anchorage methods and spacing, hardware and locations, and installation details.
- B. Product Data: Submit data on electric operating devices.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit data for motor and transmission, shaft and gearing, lubrication frequency, control adjustments, spare part sources.

PART 2 PRODUCTS

2.1 SECTIONAL OVERHEAD DOORS

- A. Manufacturers:
 - 1. HAAS Door Company
 - 2. Midland Door Co.
 - 3. Raynor Garage Door.
 - 4. Overhead Door Company.
 - 5. Substitutions: Permitted.
- B. Product Description: Steel sectional overhead doors, manual and electric operation, and associated hardware.
 - 1. Door Nominal Thickness: 2 inches thick.

2. Section Construction: Sections shall be steel sandwich construction, 2" thick, consisting of interior and exterior skins with an injected polyurethane foam insulated core. Exterior section skins to be constructed of 25 gauge steel thickness and interior skins to be 26 gauge, stucco embossed hot-dipped galvanized (G60) steel in compliance with ASTM A-653. Horizontal hinge reinforcement strips shall be 20 gauge steel located within section interior. End styles shall be 16 gauge galvanized steel.
3. Track Configuration: Standard lift configuration.
4. Tongue & Groove Section Joints

2.2 COMPONENTS

- A. Sheet Steel: ASTM A653/A653M or A924/A924M, pre-coated with manufacturer's standard thermosetting finish, plain surface.
- B. Insulation: Sections will have a calculated R-value of 16.4 and U-value of .061.
- C. Color: Exterior skin shall have two coats of paint, a zinc chromate type primer coat, and one finish coat of white polyester paint.
- D. Windows: Sections shall be furnished with Oval-type 24"x8" window encased in a one-piece vulcanized EPDM rubber frame.
 1. Quantities and locations of windows shall be per drawing elevations.
- E. Glazing: 5/8" Insulated DSB Glass: consisting of three (3) panes .

2.3 ACCESSORIES

- A. Track: Rolled galvanized steel, 0.120 inch thick; 3 inch wide, continuous one piece for each side; galvanized steel mounting brackets minimum 1/4 inch thick.
- B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.
- C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables. Manual operation to require maximum exertion of 25 lbs force.
- D. Sill Weatherstripping: Resilient and hollow rubber or neoprene strip, one piece; fitted to bottom of door panel, full length contact.
- E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.
- F. Head Weatherstripping: EPDM rubber seal, one-piece full length.
- G. Panel Joint Weatherstripping: Neoprene foam seal, one-piece full length.

- H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle; lock keyed alike.
- I. Supply chain bypass to open door without power.

2.4 ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Requirements for electrical characteristics.
 - 1. 3/4 hp motor.
 - 2. 120 volts, single phase, 60 Hz service.
 - 3. 20 amperes maximum circuit breaker size.
- B. Motor Type: NEMA MG1, Type 1.
- C. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.
- D. Disconnect Switch: Factory mount disconnect switch in control panel.
- E. Electric Operator: Center mounted on cross head shaft, adjustable safety friction clutch; brake system actuated by independent voltage solenoid controlled by motor starter; enclosed gear driven limit switch; enclosed magnetic cross line reversing starter; mounting brackets and chain & draw bar drive
- F. Control Station: Standard three button (open-close-stop) momentary type, control for each electric operator; 24 volt circuit, surface mounted.
- G. Hand Held Transmitter: Digital control, resettable (Provide frequency range not used by fire department. Insure department transmitters do not activate openers).
- H. Safety Edge: controlling Eye.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify wall openings are ready to receive work and opening dimensions and tolerances are within limits.

3.2 PREPARATION

- A. Prepare door opening components to permit installation of door unit and preserve continuity of wall air barrier and vapor retarder seal.

3.3 INSTALLATION

- A. Anchor components securely to wall construction and building framing without distortion or stress. Secure tracks to structural members only.

- B. Fit and align door assembly including hardware, level and plumb, to provide smooth operation.
- C. Coordinate installation of electrical service. Complete wiring from disconnect to unit components.
- D. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section for joint sealants.
- E. Tolerances
 - 1. Maximum Variation From Plumb: 1/16 inch.
 - 2. Maximum Variation From Level: 1/16 inch.
 - 3. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.

3.4 SCHEDULE

- A. Refer to Door Schedule on Drawings.

END OF SECTION

SECTION 099100

PAINTS AND COATINGS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and field application of paints and other coatings.

1.2 SUBMITTALS

- A. Product Data: Submit data on finishing products and special coatings.
- B. Samples: Submit two paper chip samples, 2 x 2 inch in size illustrating range of colors and textures available for each surface finishing product scheduled.

1.3 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit maintenance and cleaning instructions.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience, and with service facilities within 200 miles of Project.
- B. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Store and apply materials in environmental conditions required by manufacturer's instructions.

PART 2 PRODUCTS

2.1 PAINTS AND COATINGS

- A. Manufacturers:
 - 1. Sherwin Williams
 - 2. Benjamin Moore
 - 3. Pratt & Lambert
 - 4. Substitutions: Permitted.

2.2 COMPONENTS

- A. Coatings: Ready mixed except field catalyzed coatings of good flow and brushing properties, capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials required to achieve finishes specified.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate conditions are ready to receive Work.
- B. Measure moisture content of porous surfaces using electronic moisture meter. Do not apply finishes unless moisture content is less than 12 percent.

3.2 PREPARATION

- A. Correct minor defects and clean surfaces affecting work of this section.
- B. Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or applying finishes.
- C. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.
- D. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of maritime epoxy primer, and 2 coats of paint.
- E. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove foreign matter. Remove oil and grease with solution of tri-sodium phosphate, rinse well and allow to dry.
- F. Uncoated Steel and Iron Surfaces: Remove scale by wire brushing, sandblasting, clean by washing with solvent. Apply treatment of phosphoric acid solution. Prime paint after repairs.
- G. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Clean surfaces with solvent. Prime bare steel surfaces.
- H. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit before priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.
- I. Metal wall panels that become interior wall panels shall be washed and neutralized. To accept new primer paint and paint.

- J. Exterior wood scheduled to receive paint finish: Remove dust, grit and foreign matter. Seal knots, pitch streaks and sappy sections. Fill nail holes with exterior tinted caulking compound after sealer has been applied.

3.3 APPLICATION

- A. Sand wood and metal surfaces lightly between coats to achieve required finish.
- B. Where clear finishes are required, tint fillers to match wood.
- C. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- D. Finishing Mechanical and Electrical Equipment:
 - 1. Refer to Section 15050 and Section 16050 for schedule of color coding, identification banding of equipment, duct work piping, and conduit.
 - 2. Color code items in accordance with requirements indicated. Color band and identify with flow arrows, names, and numbering.
 - 3. Paint shop primed equipment.
 - 4. Remove unfinished louvers, grilles, covers, and access panels and paint separately. Paint dampers exposed behind louvers, grilles, convactor and baseboard cabinets to match face panels.
 - 5. Prime and paint insulated and exposed pipes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
 - 6. Paint exposed conduit and electrical equipment occurring in finished areas.
 - 7. Paint both sides and edges of plywood backboards.
 - 8. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- E. Cleaning: As work proceeds, promptly remove finishes where spilled, splashed, or spattered.

3.4 SCHEDULE - EXTERIOR SURFACES

- A. Steel - Shop Primed:
 - 1. Touch-up with latex rust-inhibitive primer.
 - 2. Two coats of latex enamel, gloss.
 - 3. Color as selected (Grey base).
- B. Steel - Galvanized:
 - 1. One coat of galvanize primer.
 - 2. Two coats of latex enamel, gloss.
 - 3. Color as selected.

3.5 EXTRA MATERIAL

- A. Supply one gallon of extra paint for each finish coat on project to owner.

3.6 SCHEDULE - INTERIOR SURFACES

- A. Wood - Painted (Opaque):
 - 1. One coat of latex primer sealer.
 - 2. Two coats of latex enamel, semi-gloss.
 - 3. Color as selected.
- B. Gypsum Board (General):
 - 1. One coat of latex primer sealer:
 - 2. Two coats of latex enamel:
 - 3. Color as selected.
- C. Steel - Unprimed:
 - 1. One coat of acrylic latex primer.
 - 2. Two coats of acrylic latex enamel, semi-gloss.
 - 3. Color as selected.
- D. Steel - Primed:
 - 1. Touch-up with latex primer.
 - 2. Two coats of acrylic latex enamel, semi-gloss.
 - 3. Color as selected.
- E. Steel - Galvanized:
 - 1. Touch-up with one coat of galvanize primer.
 - 2. Two coats of acrylic latex enamel, semi-gloss.
 - 3. Color as selected.

END OF SECTION

SECTION 312000

EARTH MOVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes site grading, removal of subsoil, building excavating and trenching, backfilling, and compacting.

1.2 SUBMITTALS

- A. Samples: Submit 10 lb sample of each type of fill to testing laboratory, in air tight containers.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Subsoil: Reusable excavated or imported material, graded free of lumps larger than 6 inches, rocks larger than 3 inches, organic material, and debris.

2.2 FILL MATERIALS

- A. Common Borrow: Conforming to State of Maine Department of Transportation "Standard Specifications for Highways and Bridges" (MDOT) 703.18.
- B. Granular Fill: Conforming to MDOT 703.06, Type B.
- C. Structural Fill: Conforming to MDOT 703.06, Type B.
- D. Pavement Subbase: Conforming to MDOT 703.06, Type D.
- E. Pavement Base: Conforming to MDOT 703.06, Type A.

2.3 ACCESSORIES

- A. Geotextile Fabric: Non-biodegradable.
 - 1. Huesker, Inc.
 - 2. TC Mirafi; Model 140N.
 - 3. TC Mirafi; Model 600X.
 - 4. Tensar Earth Technologies, Inc.
 - 5. Substitutions: Permitted.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Notify Owner's Representative when subsoil grades are established in order to confirm existence of suitable soils upon which to provide gravel and/or pavement surfaces and build-up.
- C. Notify Owner's Representative of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- D. Identify and flag known utility locations. Notify utility company to relocate utilities as necessary to perform work.
- E. Maintain and protect existing utilities to remain.
- F. Verify foundation walls are braced to support surcharge forces imposed by backfilling operations.

3.2 PROTECTION OF ADJACENT WORK

- A. Underpin adjacent structures that may be damaged by excavation work, including service utilities and pipe chases.
- B. Grade excavation top perimeter to prevent surface water run-off into excavation or to adjacent properties.

3.3 TOPSOIL EXCAVATING

- A. Do not excavate wet topsoil.
- B. Remove existing building and excavate topsoil within building footprint, cut and fill areas, and areas to be paved.
- C. Stockpile in area designated on site and protect from erosion.

3.4 SUBSOIL EXCAVATING

- A. Do not remove wet subsoil.
- B. Remove groundwater by pumping to keep excavations dry.
- C. Excavate subsoil required for building foundations, construction operations, and other Work.
- D. Slope banks at angle of 1.5H:1V or less, until shored.

- E. Do not interfere with 45 degree bearing splay of foundations.
- F. Proof roll bearing surfaces.
- G. Over excavate soft spots and backfill in accordance with schedule at end of this section.
- H. Correct unauthorized excavation at no cost to Owner.
- I. Fill over-excavated areas under structure bearing surfaces in accordance with the schedule at the end of this section.
- J. Stockpile subsoil in area designated on site.

3.5 TRENCHING

- A. Excavate for storms sewer.
- B. Cut trenches sufficiently wide to enable installation of utilities and allow inspection.
- C. Hand trim excavation and leave free of loose matter. Hand trim for bell and spigot pipe joints.
- D. Support pipe during placement and compaction of bedding fill.
- E. Backfill trenches to required contours and elevations.
- F. Place and compact fill materials as for Backfilling.

3.6 BACKFILLING

- A. Backfill areas to contours and elevations. Use unfrozen and unsaturated materials.
- B. Backfill systematically, as early as possible, to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- C. Place geotextile fabric over subsoil in areas where soft spots were removed or over-excavation was replaced.
- D. Place fill material in continuous layers and compact in accordance with schedule at end of this section.
- E. Employ placement method so not to disturb or damage foundations, foundation perimeter drainage, foundation dampproofing, or utilities in trenches.

- F. Maintain optimum moisture content of backfill materials to attain required compaction density.
- G. Backfill against supported foundation walls. Backfill simultaneously on each side of unsupported foundation walls.
- H. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise.

3.7 PLACING TOPSOIL

- A. Place topsoil in areas where seeding is scheduled.
- B. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.
- C. Remove large stone, roots, grass, weeds, debris, and foreign material while spreading.
- D. Lightly compact placed topsoil.
- E. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.8 TESTS

- A. Tests and analysis of fill material will be performed in accordance with ASTM D1557.
- B. Frequency of Tests: One (1) per 200 cubic yards of material, but in no case less than two (2) for the Project.

3.9 TOLERANCES

- A. Top Surface of Exposed Subgrade: Plus or minus one inch.
- B. Top of Topsoil: Plus or minus 1/2 inch.

3.10 SCHEDULE

- A. Fill Under Isolated Footings and Wall Footings: Structural Fill, 12-inch thick layers, compact uniformly to 95 percent of maximum dry density.
- B. Exterior Side of Foundation Walls and Retaining Walls Over Granular Filter Material and Foundation Perimeter Drainage: Granular Fill, to subgrade elevation, compact uniformly to 95 percent of maximum dry density.
- C. Fill Under Landscaped Areas: Subsoil fill, to 4 inches below finish grade, compact uniformly to 90 percent of maximum dry density.

- D. Fill Under Asphalt Paving:
 - 1. Pavement Subbase, 18 inches thick (maximum lift of 9 inches), to 10 inches below finish paving elevation, compact uniformly to 95 percent of maximum dry density.
 - Pavement base, 6 inches thick, compact uniformly to 95 percent of maximum dry density.
- E. Overexcavation: Granular Fill, 12-inch thick layers, compact uniformly to 95 percent of maximum density.

END OF SECTION

MIF&W Storage Building
Grey, Maine

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P.O. Box 46, Detroit Road
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312000 - 6

Earthwork

SECTION 334600

SUBDRAINAGE

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building perimeter drainage system.
 - 2. Filter aggregate.

1.2 SUBMITTALS

- A. Product Data: Submit data on pipe drainage products and pipe accessories.

PART 2 PRODUCTS

2.1 PIPE MATERIALS

- A. Polyvinyl Chloride Pipe: ASTM D2729; perforated and unperforated; plain end, 4 inch inside diameter, with required fittings.

2.2 FILTER AGGREGATE

- A. Filter Aggregate and Bedding Materials: Clean, well-graded, crushed stone free from shale, clay, organic materials or debris; conforming to State of Maine Department of Transportation "Standard Specifications for Highways and Bridges" (MDOT) 703.31.

2.3 ACCESSORIES

- A. Pipe Coupling: Solid polyvinyl chloride.
- B. Filter Fabric: Mirafi 140N or approved substitution.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify trench cut or excavation base is ready to receive work.
- B. Hand trim excavations. Correct over excavation with filter aggregate.
- C. Remove large stones or other hard matter that could damage drainage piping or impede consistent backfilling or compaction.

3.2 INSTALLATION

- A. Install filter fabric at bottom of trench cut or excavation base.
- B. Place drainage pipe on minimum 6-inch deep bed of filter aggregate.
- C. Place pipe with perforations facing down. Mechanically join pipe ends.
- D. Install pipe couplings.
- E. Lay pipe to slope gradients noted on Drawings with maximum variation from indicated slope of 1/8 inch in 10 feet.
- F. Install coarse aggregate at sides, over joint covers and top of pipe. Install top cover compacted thickness of 6 inches.
- G. Place filter fabric over leveled top surface of aggregate cover prior to subsequent backfilling operations.
- H. Place aggregate in maximum 6-inch lifts; consolidate each lift.
- I. Increase compaction of each successive lift. Refer to soils Section for compaction requirements. Do not displace or damage pipe when compacting.
- J. Connect to existing pipe if present.

END OF SECTION